Frankly Speaking

Columbus

As far as we know Columbus was not a traffic engineer nor did the Institute of Traffic Engineers, on its own, hold the 17th annual convention at Columbus, Ohio, because Christopher Columbus discovered America. It is significant, however, that I. T. E. discovered it could "stand on its own feet" at Columbus, a city named for the man who discovered America.

Yes, this Annual Meeting marks another important milestone in the growth of I. T. E. and the profession of Traffic Engineering. Nearly two hundred members and guests from all parts of the United States, including Honolulu and from Canada; the splendid attendance at the sessions; and the high technical calibre of the papers presented, demonstrated the fact that the Institute of Traffic Engineers has become a self-sustaining organization and a potent influence in the transportation field so vital to our economic and social life.

As the discovery of America by Columbus was only the beginning of a great and strong new world, so is the discovery by I. T. E. of its new forcefulness just a beginning of new and better things to come.

Plans now well underway bring us renewed hope for obtaining the services of an Executive Secretary who can devote his entire time and energy to expanding the activities of the Institute of Traffic Engineers and increasing the prestige and value of traffic engineering.

All of us are grateful to Harry Neal and those who cooperated with him in showing us such a "swell" time in Columbus.

Robt. H. Mitchell

Vice-President I. T. E.

What Per Cent of Institute Members are Registered Professional Engineers?

by HAROLD F. HAMMOND and TAYLOR LEWIS

A recently conducted survey of the membership of the Institute revealed that an even majority of the members (51%) (see Figure 2) are licensed to practice as Professional Engineers in twenty-seven states and Hawaii. An even more significant fact is that sixty-six per cent of those members actively engaged in Traffic Engineering are already registered or are in the process of registering (see Figure 4).

Boards Accept T.E. Experience

Traffic Engineers are fully aware that state boards of registration are becoming more active since the close of the war, and that they are tightening up on laws affecting registering professional engineers. The general registration practices seem to require four years of self-development through approved experience. It is of interest to all traffic engineers to note, however, that traffic engineering experience has been accepted by State Registration Boards in about two out of three of the reported cases in this survey (see Figure 9).

Labor Unions

Labor unions have been increasingly active in forming collective bargaining groups in which engineers doing work on the professional level have been included along with persons doing sub-professional, skilled and semi-skilled labor. These heterogeneous groups are not primarily concerned with the interest of professional engineers because they are only a very small minority in the group. To be excluded from such bargaining groups, the professional engineer must prove that his interests are non-compatible with those of the sub-professional groups. Registration may properly justify the freedom of action necessary for engineers to perform their functions which involve direct dealing with employers. For this and other reasons, traffic engineers find that registration is sometimes necessary to hold positions. 38% reported registration necessary to hold position (see Figure 5). More and more emphasis is likely to be placed on this qualification in traffic engineering positions in the future.

The survey was designed to bring out the status of the profession of Traffic Engineering as recognized by state boards of registration. The answers to these questions are of vital concern to all traffic engineers as members of a branch of engineering which is new and only comparatively recent in recognition. The individual efforts of the membership in securing registration, not only as professional engineers but using traffic engineering experience as qualifying experience, marks the acceptance of this branch of engineering as professional (see Figure 8).

Harold Hammond (Mem. I.T.E.) is immediate past president of the Institute and chairman of the Policy Committee. Taylor Lewis (Mem. I.T.E.) is a member of the instructional staff at the Yale University Bureau of Highway Traffic. This study was made under direction of the Policy Committee, Institute of Traffic Engineers.

RESULTS OF INQUIRY INTO REGISTRATION STATUS OF MEMBERS OF INSTITUTE OF TRAFFIC ENGINEERS

74% OF MEMBERSHIP COMPLETED AND RETURNED QUESTIONNAIRE

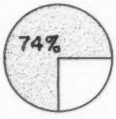


FIG. 1

66% OF MEMBERSHIP ACTIVELY ENGAGED IN TRAFFIC ENGINEERING

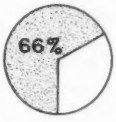
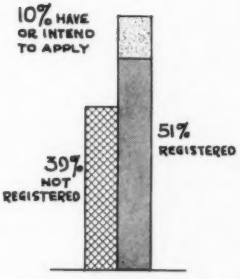
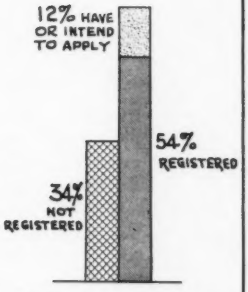


FIG 3



STATUS OF MEMBERS WHO RETURNED QUESTIONNAIRE

FIG. 2



STATUS OF MEMBERS ACTIVELY ENGAGED IN TRAFFIC ENGINEERING

FIG. 4

CONDITIONS OF REGISTRATION

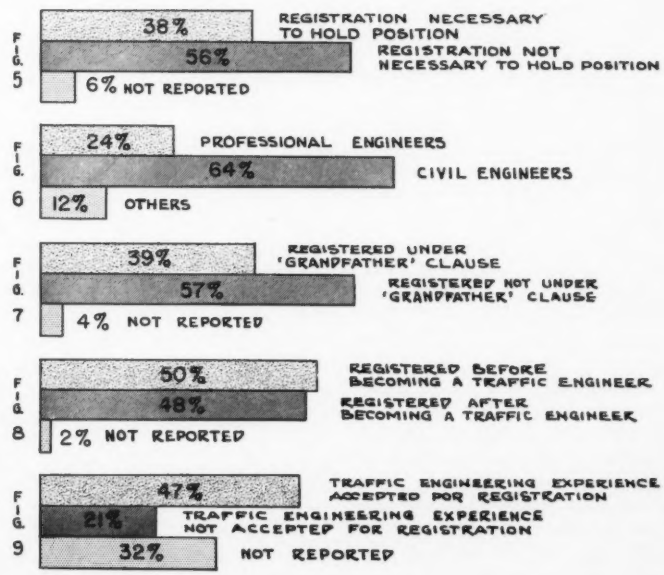


FIG. 5
38% REGISTRATION NECESSARY TO HOLD POSITION
56% REGISTRATION NOT NECESSARY TO HOLD POSITION
6% NOT REPORTED
FIG. 6
24% PROFESSIONAL ENGINEERS
64% CIVIL ENGINEERS
12% OTHERS
FIG. 7
39% REGISTERED UNDER 'GRANDFATHER' CLAUSE
57% REGISTERED NOT UNDER 'GRANDFATHER' CLAUSE
4% NOT REPORTED
FIG. 8
50% REGISTERED BEFORE BECOMING A TRAFFIC ENGINEER
48% REGISTERED AFTER BECOMING A TRAFFIC ENGINEER
2% NOT REPORTED
FIG. 9
47% TRAFFIC ENGINEERING EXPERIENCE ACCEPTED FOR REGISTRATION
21% TRAFFIC ENGINEERING EXPERIENCE NOT ACCEPTED FOR REGISTRATION
32% NOT REPORTED

The principal topics covered in the study were:

(1) Are you a registered professional engineer?

(2) In what state or states are you registered?

(3) In what branch of engineering are you registered?

(4) Did you register under the "grandfather clause" of a state?

(5) Did you register before becoming a traffic engineer?

(6) Was your experience in traffic engineering accepted as "engineering experience" in your registration, and if so, the approximate number of years of such experience claimed?

Majority of T.E.'s Are Registered

Seventy-four per cent or 235 of the members completed and returned the questionnaire. Of the number returning the questionnaire, 51 per cent reported that they were registered as professional engineers in one or more states. Another 10 per cent stated they had applied for registration or were going to apply soon. The remaining 39 per cent stated they were not registered in any state and gave no indication that they planned to seek registration (see Figures 1 and 2).

Two Groups Vary in Results

So that the information would be of further help to the Institute members, the replies were divided into two groups. The first group is called "Class A", and is composed of members engaged in the regular practice of traffic engineering, whether it be in government or private industry. Sixty-six per cent or 155 members of the total replying to the questionnaire were found to be in "Class A." The second group is called "Class B," and consists of members engaged in related fields of endeavor. Thirty-four per cent or 80 of the members replying were in this class (see Figure 3).

Fifty-four per cent of the "Class A" members reported they were registered, and 12 per cent stated they had applied or intended to apply soon. The remaining 34 per cent reported they were not registered, and gave no indication of applying for registration (see Figure 4).

Forty-five per cent of the "Class B" members reported they were registered. Five per cent stated they had applied or intended to apply, and the remaining 50 per cent stated they were not registered.

Detailed Analysis of Class "A"

Inasmuch as the questionnaire was aimed primarily at those members actively engaged in traffic engineering ("Class A"), a detailed examination was made of the replies received from the 54 per cent in this class that reported they were registered professional engineers. The highlights of this examination are given in the following summaries:

(1) In what branch of engineering are you registered? (See Figure 6)

As professional engineer	24%
As civil engineer	64%
As traffic engineer	3.5%
As electrical engineer	3.5%
As architectural engineer	1.5%
Not stated	3.5%

(2) Did you register under the "grandfather clause"? (See Figure 7)

Yes	39%
No	57%
Not stated	4%

(3) Did you register before becoming a traffic engineer? (See Figure 8)

Yes	50%
No	48%
Not stated	2%

(4) Was your experience in traffic engineering accepted as "Engineering experience" in your registration? (See Figure 9)

Yes	47%
No	21%
Not stated	32%

(5) Is it necessary to be a registered engineer to hold your position? (See Figure 5)

Yes	38%
No	56%
Not stated	6%

It is particularly significant to note that in the foregoing answers that almost an equal number of members became registered professional engineers after joining the traffic engineering field, as were registered before becoming traffic engineers. It is also highly significant that 47 per cent reported their experience in traffic engineering was accepted as "engineering experience," when applying for registration.

Thirty-seven of the traffic engineers in "Class A" reported a total of 300 years of traffic engineering experience or an average of more than eight years per man. Michigan has the greatest number of registered traffic engineers that are members of the Institute; Indiana is second; and Ohio and Pennsylvania tie for third place.

Traffic engineers are registered in 27 states and Hawaii, and 5 traffic engineers are registered in more than one state.

Some Views on Off-Street Parking

by ROBERT J. ROSS, *City Engineer*
Hartford, Connecticut

One of the important problems with which the auto has confronted us is—how to accommodate them within our cities while their occupants are out of the cars and about their business.

The advantage of fine roads into cities is nullified if there is no place for the cars to be parked after they reach the city. The problem can be solved if our people will realize the seriousness of the situation and if they are willing to spend the necessary funds required for a solution. Surveys will disclose the number of cars desiring a suitable place to park and it is a simple matter to determine the available spaces.

Any comprehensive master plan of city highways must take parking into consideration and the healthy economic life of central business areas depends upon suitable and ample parking accommodations fully as much as on suitable streets.

Vacant Lots Are a Blessing

During the past depression, many central buildings were torn down to lessen the tax load on the properties. The vacant lots resulting have been used for off-street parking and while far from ideal, they have proved blessings in disguise. The value of existing parking lots is apparent; in fact, without them we would be sunk, but they could and should be improved.

My office has, within the past month, checked on available parking throughout the business area of Hart-

ford and has plotted the locations on a map. On this map, the red shading which indicates the parking lots is very prominent and gives the impression that much of the business section has been given over to parking lots.

By actual count, there are 105 locations, public or private, where cars are parked. Except for the relatively few garages, all parking is in open lots at street grade. No attempt has been made to increase the capacity of these by providing multiple floor parking. Some of the parking lots are located on expensive land or at least in sections of high values and because of this fact it would not appear that the real estate was being used to the best advantage.

Multi-Level Garages

It should be possible, and from the standpoint of good business, logical, to multiply the capacity and increase the income of some of the lots by providing structures so that parking would be available on several floors in addition to that at street level. If a steel structure is erected, it could be so designed that it might be revamped later, if necessary, for some other service without undue sacrifice. If multiple floor garages are built, the ground floor or at least a desirable corner location could be developed within the structure for store or other commercial uses.

Better parking would add to the value of the central area. Today there are too many parking lots of insufficient capacity. If the capacity of some of them could be increased, it would release others for new commercial buildings which would be attracted by the improved conditions. People prefer to do business in the downtown district of Hartford, or any city, and this popularity and prosperity can be enhanced by improving off-street parking.

Underground Lots

We have all heard about the underground parking garage in San Francisco, and of ones proposed for Detroit and Boston but we should not assume that these new facilities entirely solve the problem in such large cities. For instance, the capacity of one is 1700 cars and of the other only 1000 cars. Definitely, they are a great help to a limited and local section and a step in the right direction, but their capacity represents but a small fraction of the over-all parking requirements of such large cities. This is apparent when you consider that we have parking facilities in the Hartford business area for about 9000 cars at any one time and that this is at least 4000 short of our needs.

In these particular cases there were open areas which could be used for underground parking which made the undertaking feasible. In the business district of Hartford, where relief is most needed, there are no large open-parked areas available and, if underground garages should call for the

100 PEOPLE WERE ASKED ....
HOW FAR ARE YOU WILLING TO WALK AFTER PARKING YOUR CAR?

Time Parked	Number of Blocks People Are Willing To Walk ½	1	2	3	4	5	6	Over 6
½ HOUR	2%	41%	36%	14%	4%	2%	1%	0%
1 HOUR	4	15	37	28	12	4	3	6
2 HOURS	1	6	28	29	23	6	5	2
Over 2 HOURS	0	2	20	33	20	3	8	4

Results of a recent traffic study in Hartford.

shoring of existing buildings, the cost would be prohibitive. It is less costly in Hartford and elsewhere to build above the ground level than below.

Parking Needs Immediate Attention

The Police Department has done a commendable job in regulating traffic but, necessarily, mostly in the nature of imposed restrictions. The motorist has been told what he cannot do, has been restricted in his movements for his own good, but very little has been done for him to offset the privileges which he may feel have been taken from him.

If we must tell a driver that he cannot park here or there, then we should go further and furnish him accommodation, which he can afford, to compensate for the necessary restrictions.

Proposed Parking Plaza

In a recent report to the City Planning Commission, I have laid out in full, plans for a parking plaza.

The contemplated location of the plaza is from Market Street easterly to Connecticut Boulevard and between Talcott Street and Temple Street, or an extension of this site to Ferry Street if desired.

The plaza would provide three floors, all inclosed and protected from the elements as well as exposed parking facilities on the roof. This structure between Talcott and Temple Streets would comfortably care for 2,500 cars at any one time leaving every car free to come and go without moving any other car, or if extended south to Ferry Street east of Front Street, a total of 3,300 cars could be handled at one time. With a conservative turnover, up to 10,000 cars could be taken care of per day.

In the formulation of the tentative drawings of the plaza, it is to be noted that the motor entrances and exits are so located as to tie in with the city traffic lanes as they approach this area from all directions.

Having brought the public to the parking plaza, it then becomes necessary to provide means of getting them to and from any central place of business without requiring walks of an appreciable distance. This particular accommodation is extremely important —perhaps the crux of the whole proposition — and the popularity of the plaza will depend largely upon the facilities provided.

Electric Trains Proposed

Much thought has been given to the means of transferring patrons to and from the plaza, and it now appears that small light-weight deluxe trains with electric battery motors would probably be the most logical. The cars would be attractive and designed to assure a comfortable ride. These electric trains would be in more or less continuous operation with on-and-off facilities at Front Street where bus passengers, as well as parking patrons, would be taken care of, at Market Street, at the east side of Main Street, at the west side of Main Street, and at a turn-around terminal in the center of the block bounded by Main, Church, Trumbull and Pratt Streets.

The lay of the land from Main Street easterly is such that the roof of a three-story parking building east of Market Street would be somewhat lower than Main Street. It is intended that the train would travel in an enclosure on the roof of the plaza, pass over Market Street, and in a subway under Main Street and to the terminal. This could be accomplished with practically level grades.

Shoppers arriving at the plaza, either in their own cars or by bus, should be privileged to use this train service. A walk would be provided along the electric train route whereby those who wished to could make the trip on foot.

At each motor entrance or exit, cashier and attendants could be so located that the patron's car could be taken or delivered at this immediate point. By this system the patron would be spared the inconvenience and danger connected with walking about the parking area. Instead, the patron would find himself in the close proximity of escalators to convey him to all floor levels above the ground floor and affording connections with the horizontal walk and tramway at the top level previously referred to.

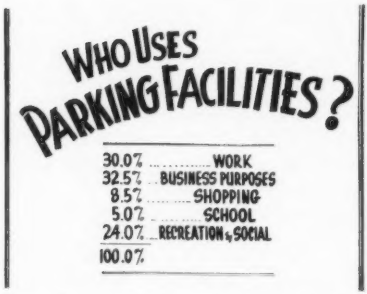
Throughout the length of the subway and concourse there would be either display windows or small concession booths for the display or sale of merchandise. By the use of attractive surface color treatment and semi-indirect lighting, these areas, with their displays, should be interesting to the patrons as well as affording merchants an effective source of advertising.

On Market Street, at street level, a main waiting room is proposed which would be of an imposing design with all appointments necessary for the comfort and convenience of the patrons. Besides providing space where persons sharing a car with others may meet by appointment, it would also provide rest rooms and concessions for light refreshments, etc.

Escalators would connect this unit with all levels, including the tramway level.

Secondary waiting rooms and rest rooms have been provided at the bus terminals, located at the east and west sides of Front Street, and are also connected by escalators to the tramway at the roof level.

Convenience, attractiveness and comfort would be stressed so that a shopping trip would be a pleasant experience.



Basic data, such as revealed in the above summary from Hartford, help guide traffic planning.

Immediate Measures Needed

I have referred to the parking plaza which I firmly believe in, but it, in itself, would not solve the problem and it cannot be had immediately, so if we expect early relief, we must look to the improvement of some of the existing lots first. The city might have to lend assistance in a project involving several properties but, even in such a case, the project should be so handled that the facility is not provided at the expense of the taxpayers. The improvement of the parking lots should be undertaken by the owners or the tenants of the properties on long-term leases, or possibly by the business interests which have the most at stake. It should not be necessary for the city to go into the parking business.

This article is based on a talk given before the Third Connecticut Traffic Engineering Conference, jointly sponsored by the Yale Bureau of Highway Traffic and the Connecticut Highway Safety Commission.

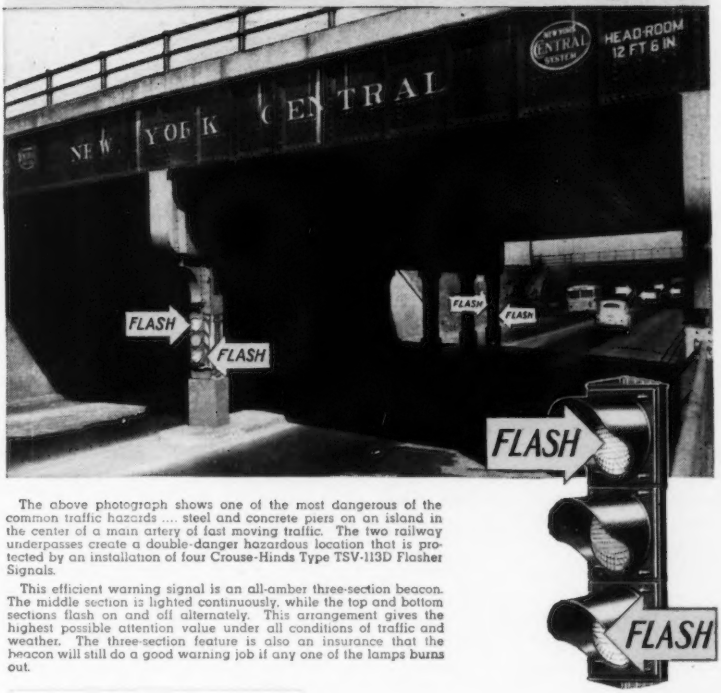
★ ★ ★

CHICAGO LIGHTS CUT DEATH TOLL 37 PER CENT

Total night traffic accidents were reduced 37 per cent on five Chicago street intersections which had the highest accident rate, through the installation of traffic safety lighting. In the year that reduction was registered, daytime accidents at those same intersections increased slightly.

Islands are potential ✖ spots and should be clearly marked with

CROUSE-HINDS *Flasher* Signals



The above photograph shows one of the most dangerous of the common traffic hazards ... steel and concrete piers on an island in the center of a main artery of fast moving traffic. The two railway underpasses create a double-danger hazardous location that is protected by an installation of four Crouse-Hinds Type TSV-113D Flasher Signals.

This efficient warning signal is an all-amber three-section beacon. The middle section is lighted continuously, while the top and bottom sections flash on and off alternately. This arrangement gives the highest possible attention value under all conditions of traffic and weather. The three-section feature is also an insurance that the beacon will still do a good warning job if any one of the lamps burns out.

Crouse-Hinds Catalog 226 lists a complete line of traffic signals, beacons, flashers, and a series of controllers designed to help you solve your traffic control problems ... from simple installations up to the most complex heavy traffic problem. Send for your copy.

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY

Syracuse 1, N. Y., U. S. A.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Kansas City Los Angeles — Milwaukee — Minneapolis — New York — Philadelphia — Pittsburgh — Portland, Ore. — San Francisco — Seattle St. Louis — Washington. *Resident Sales Engineers:* Albany — Atlanta — Charlotte — Indianapolis — New Orleans

CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS • TRAFFIC SIGNALS • AIRPORT LIGHTING • FLOODLIGHTS

Built-in Facilities for Parking and Loading

by NATHAN CHERNIACK, *Economist*
The Port of New York Authority

AMERICAN city officials are becoming increasingly concerned with the problem of parking cars and loading and unloading trucks in the busy downtown areas. And rightly so. If the city is to remain an economically sound unit, accessibility to the central business district must be maintained. Without parking or loading areas cities will gradually wither. Store and office workers, shoppers, businessmen, recreation seekers and others who travel to the city are not content to accept mass transportation as the only means of access to the city. The very essence of private motor car operation is flexibility and comfort. Motorists continue to exhibit a mighty urge to drive downtown and are ever prepared to fight inordinate traffic congestion to enjoy whatever remains to be salvaged of these advantages. Trucking operations into and out of urban centers are also motivated by economic advantages. Consequently, the mere projection of the idea of abandoning any part of the trucking movements so essential to the city's commercial life would bring quick and justifiable denunciation.

Parking Time Limits Not Complete Answer

In the future, the demand for parking will continue and is more likely to grow rather than to shrink. It is appropriate, therefore, to consider any and all means by which to arrest the increasing deficiencies in the supply of parking and loading space at acceptable locations in central business districts. With this in view, parking time restrictions and prohibitions have been universally applied in and around downtown areas. Available space is so limited when compared with the demand that time limits are extremely difficult to enforce. If they are rigidly enforced, motorists are forced to the few convenient off-street lots or garages which frequently raise their fees to such an extent that public resentment is aroused. As a result, the enforcement of curb time limits is relaxed and the cycle is complete.

Parking Meters Help a Little

Some success has followed the installation of parking meters as the means of regulating the use of curb space and it has been demonstrated that meters do simplify enforcement of time restrictions and provide a new source of revenue for other traffic improvements. Meters also tend to increase curb parking space turnover, that is, more frequent use of the same spaces; but they do not provide more spaces. Everyone now agrees that curb space alone satisfies only a fraction of the demand for parking spaces.

Fringe Parking Helps a Little

Fringe parking is another attempt at the solution of the parking problem. *(Ed. Note: See what cities are doing in this regard—page 13).* Occupants

of private motor cars leave their vehicles at a selected parking area on the city's periphery, transfer to a mass transportation vehicle and ride to the city center, reversing the process on the return trip. Under the most favorable conditions, fringe parking would contribute to a very limited extent toward the solution of downtown parking, but usually the conditions are not too favorable. Motorists do not take very readily to a change between the private car and the mass transportation vehicle, especially if in one or the other direction, seats in the mass transportation vehicle are not available.

Lots and Garages Suffer Disadvantages

Downtown parking lots and garages are invariably located on high priced real estate. Here again, if conditions favor the parking lot or garage owner with such boons as rapid turnover, a location close and convenient to trip destinations and attractive surroundings, the venture may be financially successful. Financially successful ventures do not necessarily provide for optimum use traffic-wise and hence such facilities can only be considered an amelioration rather than a completely effective solution of downtown parking. The plain fact, however, is that, on the one hand, parking as an enterprise is not especially remunerative or profitable in a downtown city area and, on the other hand, the need for parking capacities is usually most acute in areas where the investment for such a purpose would be almost certain of failure.

Many other solutions to the parking quandry have been explored by students of the problem and have been applied in different cities with varying degrees of success. City operated off-street parking lots, city subsidized facilities, parking authorities, merchant-supported lots and garages are only a few examples.

A New Approach to the Problem Surveyed

A relatively new approach designed to reach the roots of this problem is now on the horizon and promises to become a highly effective attack. This approach involves the adoption of zoning ordinances by cities, requiring property developers to build in facilities for the parking of automobiles and the loading and unloading of trucks in new or reconstructed buildings. The feasibility of this approach has been tested by the circulation among city traffic engineers, city planners and retail trade associations of the several questions quoted below. Thirty-eight traffic engineers from as many cities, 54 planners from 31 cities and 34 retail trade associations from the same number of cities have replied. The summary of their responses throws light on this method of attacking the problem. The following series of tables shows the joint and separate reactions of the three groups contacted and represents a total of 126 responses from 77 cities.

Off-Street Parking—Table 1

Question: Is it feasible to make reasonable provision for the off-street parking of automobiles a requirement when buildings are constructed or reconstructed by an amendment to present zoning laws?

	Responses			*Percentages*	
	Total	*Yes*	*No*	*Yes*	*No*
City Traffic Engineers	38	37	1	97.4	2.6
City Planners	54	51	3	94.5	5.5
Retail Trade Associations	34	22	12	64.8	35.2

It will be noted from Table 1 that traffic engineers and city planners, who live close to the parking problem in their professional experience, are almost unanimous in affirming the feasibility of providing for offset parking of automobiles when buildings

are constructed or reconstructed by amendment to present zoning laws. The retail trade association representatives, who are a little further removed from the dilemma and who would be burdened financially by such provisions, are less enthusiastic, with slightly less than two-thirds of the group in favor of the proposal.

Off-Street Loading—Table 2

Question: Is it feasible to make reasonable provision for the off-street loading and unloading of trucks a requirement when buildings are constructed or reconstructed by an amendment to present zoning laws?

	Responses			*Percentages*	
	Total	*Yes*	*No*	*Yes*	*No*
City Traffic Engineers	38	38	0	100.0	0.0
City Planners	54	52	2	96.3	3.7
Retail Trade Associations	33	25	8	75.8	24.2

As shown in Table 2, an even larger proportion of each of the three groups consider it feasible to require that reasonable provisions be made for off-street loading and unloading spaces for trucks in new buildings or reconstructed existing buildings. It is evident that the space needs for truck loading and unloading have been recognized as somewhat more acute than have those for passenger car storage.

Zoning Laws—Table 3

Question: If there are no provisions in existing zoning laws requiring space for off-street parking or loading and unloading of trucks, do you consider them *desirable?*

	Responses			*Percentages*	
	Total	*Yes*	*No*	*Yes*	*No*
City Traffic Engineers	34	34	0	100.0	0.0
City Planners	38	38	0	100.0	0.0
Retail Trade Associations	29	23	6	79.3	20.7

Table 3 shows a united front on the part of the traffic engineers and city planners contacted concerning the desirability of having appropriate requirements in zoning laws if they are not already there. Seventy-nine percent of the retail trade associations agreed that such provisions were desirable.

Are Such Laws Effective?—Table 4

Question: Would you consider the incorporation of such provisions in present ordinances as a means of assisting in solving the parking problem?

	Responses			*Percentages*	
	Total	*Yes*	*No*	*Yes*	*No*
City Traffic Engineers	36	36	0	100.0	0.0
City Planners	49	48	1	98.0	2.0
Retail Trade Associations	31	26	5	83.9	16.1

Here in Table 4 is another indication of the regard held by the three groups for this approach to the parking problem. All the traffic engineers, all but one of 49 city planners replying, and 26 out of 31 retail trade associations would consider incorporating parking and loading provisions in present ordinances as a means of assisting in solving the parking problem. In their replies, a few of the planners indicated that in very small and in very large cities it would be found extremely difficult to incorporate such provisions into zoning laws and that these provisions would only partially aid in solving the problem.

Present Status of Such Zoning Laws

Of the 77 cities represented by the returns, 13 indicated that they already have some form of off-street parking or loading provisions as a part of their zoning ordinance. As shown in Table 5, five cities have prepared tentative drafts of zoning laws or amendments thereto which contain such provisions and these are now before their respec-

tive city councils for adoption. An analysis of the existing or proposed provisions in zoning ordinances for all these 18 cities shows that 12 of them have established requirements for off-street loading and unloading space for trucks. Existing or proposed zoning laws in 11 of the cities require off-street parking in new dwellings, and the same number require this of public places of assembly. By contrast, only 6 of the 18 cities require or propose to require off-street parking of autos in commercial buildings (See table 5).

These 18 cities with existing or proposed zoning requirements for parking and loading facilities are among those who are breaking ground on this fundamental approach to the parking problem. Other cities have given indication that they too may follow this course. Other measures looking toward relief of parking congestion will always be needed, but the trend toward this particular approach seems significant. Results will perhaps be slow in coming but they will bear watching if we are to learn to handle the stationary vehicle as efficiently as the vehicle in motion can now be handled.

TABLE 5

Progress in Incorporating in Zoning Laws Provisions for Loading and Unloading of Trucks and Parking of Autos in Different Types of Buildings

	1940 Population	Provision for Offstreet Loading and Unloading of Trucks	Provisions for Offstreet Parking of Autos in dwellings	in places of assembly	in commercial buildings
Respondent Cities Where Zoning Laws are Now in Effect					
1. New York, N. Y.	7,454,995	x	–	–	–
2. Cleveland, Ohio	878,336	x	x	–	x
3. Los Angeles, Calif.	1,504,277	x	x	x	x
4. Kansas City, Mo.	399,178	x	x	x	–
5. Waterbury, Ct.	99,314	–	x	–	–
6. Chicago, Ill.	3,396,808	–	–	x	–
7. Detroit, Mich.	1,623,452	x	x	x	–
8. Nashville, Tenn.	167,402	x	–	–	–
9. Evanston, Ill.	65,389	–	x	–	–
10. Washington, D. C.	663,091	–	x	–	–
11. Lansing, Mich.	78,753	–	x	x	–
12. Richmond, Va.	193,042	x	–	x	x
13. Piqua, Ohio	16,049	x	–	x	x
Total 13	16,540,086	8	8	7	4
Respondent Cities Where Tentative Drafts of Zoning Laws or Amendments are Now Under Consideration					
1. San Francisco, Calif	634,536	x	–	–	–
2. St. Paul, Minn.	287,736	–	–	x	–
3. Dallas, Texas	294,734	x	x	x	x
4. Wichita, Kan.	114,966	x	x	x	x
5. Toronto, Ont.	657,612	x	x	x	–
Total 5	1,989,584	4	3	4	2
Grand Total 18	18,529,670	12	11	11	6

Federal Aid Road Program Moving Ahead

by CHARLES M. UPHAM

Engineer-Director, American Road Builders Association

In spite of shortages of men and materials, the federal aid highway program is moving ahead, considering the volume of work under construction and volume of plans approved.

Two periods in federal aid road building may be compared, one as of May 31, 1941 and the other as of May 31, 1946. The work completed for the current fiscal year to date is small compared with that of the same date in 1941 due to the fact that we had to start from scratch at the end of the war. The amount of federal aid work now under construction, however, is slightly above that of the same period in the last pre-war years, the total in 1941 being $260,000,000 and $280,000,000 in 1946.

The real bright side of the picture is reflected in the amount of work approved for construction. The situation as compared to 1941 is particularly favorable, with the amount of work approved at the present time standing at $260,000,000 and that of the pre-war date at $190,000,000.

The future trend continues to be uncertain due to many existing obstacles. In a recent survey of 40 state highway departments all those answering listed various shortages which were restricting highway construction. Of these, the steel shortage was cited as a most serious obstacle in the greater percentage of the states replying.

Of equal importance in retarding the program is the shortage of engineers. Many states list shortages of lumber, equipment, materials and the prevalence of high prices.

In the meantime the highway situation becomes more acute. The resumption of high speed driving of worn out vehicles on a highway system, a large percentage of which had become obsolete before the war caused a sharp rise in traffic fatalities. The longer the program continues to lag the worse the situation will become and the larger looms the job ahead.

Consequently there must be increased and continued effort to meet a demand which is becoming critical. Ten billion would be required in widening, rebuilding and relocating highways and bridges which have become obsolescent. In addition to improving and enlarging both primary and secondary highway systems to take care of faster, heavier motor traffic, this will require a long range, intensified program of construction extending far into the future.

★ ★ ★

"Making cars is just a small part of the automobile business—it is 90 per cent of the oil, 80 per cent of the rubber, 75 per cent of the plate glass and 18 per cent of the steel business, part of the real estate expansion and all of the road building business, including machinery and supplies."—C. F. Kettering, vice president of General Motors in charge of research.

Have You Tried The

NEW

PRISMO SIGN KIT

Reflectorize Your Signs With These New Features

- A *NEW* EVEN SURFACE SMOOTHNESS
  Easy to stencil messages
- A *NEW* GREATER REFLECTIVITY
- A *NEW* EASIER APPLICATION
  Just spray, brush, or screen it on.
  No gluing, trimming, or bubbles, etc.
- A *NEW*, BUILT-IN "AUTO-FOCUS"
  No need to aim your signs, with Prismo
- A *NEW* LONG LIFE
  Prismo signs are in service today after seven years of service life — no maintenance — self-cleaning
- A *NEW* ECONOMY
  Shine up your signs with Prismo at a fraction of previous reflectorizing costs
  White - yellow - green - red - and other colors

Immediate Deliveries on Standard and Junior Kits

WRITE FOR BULLETIN NO. 244

THE PRISMO SAFETY CORPORATION

HUNTINGDON . . . . . PENNSYLVANIA

From Dog Patch to Kennel Club

by LLOYD BOWMAN, *Traffic Engineer*
Manhattan District, U.S. Engineering Department

THE Clinton Engineer Works, of which the community of Oak Ridge is a part, lies in a ridged and rolling portion of both Roane and Anderson Counties, in Eastern Tennessee: Its longitudinal axis lies in a southwesterly and northeasterly direction in parallel with the ridges and valleys of the foothills of the Cumberland Mountains.

Oak Ridge beggars description. It is a place where superlatives predominate. It is a place where startling headlines are in order and always looked for. It is located down beyond where the South begins. It is the place where a host of people, a real cross section of America, working day and night produced the materials for the bomb which literally disintegrated the Japanese cities of Hiroshima and Nagasaki in true Buck Rogers fashion. It is the place which made the Bikini Tests possible. It is truly a place with a future.

They Learned to Stay in Line

From the very beginning it has been a place where everybody learned to stay in line. Access roads were so few in number; they were so narrow and very inadequate that the motorist had no other choice. Whether it was at the entrance gate, at the bus stop, the employment office, the clock alley, the cafeteria, the theatre, the telephone booth, the housing office, the laundry, the bank, yes and even at the churches we learned to stay in line. Both time and space were at a premium.

The Clinton Engineer Works covers an area having a length of approximately eighteen miles and a variable width of from five to ten miles. The arterial roads leading from the perimeter gates to Oak Ridge and to the various processing plants lie for the most part in the valleys. The main north and south roads utilize gaps and passes to effect interconnection with the east and west roads.

An Exploded City

The Oak Ridge city layout went through a process not unlike atomic fission while yet on the drawing table. It is a very good example of the "exploded" type of city. The principal process areas are widely separated from each other and from the city proper. In Oak Ridge proper, there are seven distinct commercial areas. There are twelve schools, ten grade, a Junior High and a Central High. Churches and theatres correspond closely with the school and the commercial locations. The same may be said with respect to the recreational facilities. This together with the street layout serves to disperse or spread the traffic demands.

The streets present a curvelinear pattern. There is a difference of elevation between the grade of Oak Ridge

Turnpike and that of Outer Drive amounting to an average of two hundred feet. Consequently all avenues which serve as connecting links between the above mentioned facilities have a variety of medium to very steep grades.

Like a Tobacco Road Extension

All facilities were constructed under the urge and hurry of war, and remember, it was very much like extending and improving "Tobacco Road." As time passed many undesirable features began to present themselves. Road surfaces were earth and crushed stone, not too well stabilized. They were too narrow and erosion was making them more inadequate almost by the hour.

Our first big and ever present job was to expedite — especially EXPEDITE traffic at all times. The only reason that it might be of more importance at some times than at others was that at those other times there was more of it and all trying to occupy the same SPACE at the SAME TIME.

Our work was largely operational. We had three principal groups with whom and for whom we had to work in the most effective manner. We had the road workers, both contractors and the maintenance forces. We had the contractors who were extending and completing the processing company plants. And we had the police, both the M.P.'s and the auxiliary M.P.'s.

We maintained constant contact with all these. By establishing good sensible working relations with the Roads and Streets Department we won a goodly portion of the traffic battle. Then, in doing the same with the contractors who had the resurfacing and reconstruction of the highways and streets we won another portion. And finally by making these two groups friendly with the Police Department we effected our greatest gains.

By checking carefully with both roads and streets and with the contractors at the close of each day we were enabled to make reasonable and proper requests for police and guard service for the following day. Telephone and car radio enabled us to maintain very close liaison with the necessary agencies at all times.

Construction in Off-Peak Hours

Practically all resurfacing and reconstruction was done "under traffic." This traffic consisted of cars, trucks, heavy equipment of many kinds and buses—the ever present buses.

When conditions were most adverse we requested that all construction and maintenance forces start work after 8:00 A.M. and stop at 4:00 P.M. This left the roads clear for the shift movements to and from the processing plants. This slowed the road work but it enabled the plant workers to make their necessary trips at the required times to and from the plants.

Grading, stabilization, widening, more grading and finally the application of the road and street surfaces. The work was rushed daily under the utmost pressure.

Pavement Lines

As soon as a new surface was sufficiently cured we applied white reflectorized center lines. We also applied lane lines on all multiple lane roads. We established one very necessary "no passing" zone in the face of some unwarranted opposition. It took many gallons of white paint and hundreds of pounds of "glass beads" along with a hard working maintenance crew and a very commendable police force to effect the desired results.

One-Way and Unbalanced Flow

To expedite movements at the perimeter gates we instituted one-way traffic during the major rush hours. At two of the gates we installed a traffic signal on the outer approaches thereto. These signals were operated

manually, by remote control by the M.P.'s at the respective gate houses.

On some of the service roads at and near the major plants we reluctantly (and only after much pressure) tried unbalanced flow movements during the shift periods. It was undesirable in that, as was to be expected, it greatly overloaded the inadequate intersections.

In the original plans(?) of the Clinton Engineer Works highways the intersections or points of interchange just happened. They were like "Topsy" in that they just grew. The physiographic features of the area, in most cases, determined where the intersections were located.

A Particularly Bad Intersection

As an example, the junction of Bear Creek and Scarboro Roads was very definitely determined by the gap in Bear Ridge where Bear Creek seems to flow so nonchalantly up from the depths of Union Valley beyond. This is a three way junction, two legs of which are four lane undivided facilities and the third is a three lane way. Now add to this one medium sized creek; put in the most used industrial railroad of the area and then imagine five to six thousand vehicles—cars, buses, carryalls, stone trucks, transit mix jobs, a few locomotives—both steam and deisel and then, for good measure put in some more buses, a few "dozers," some power graders, cranes and shovels and you will have a fair picture of this intersection a few minutes after quitting time at the Tennessee Eastman Plant.

A Real Parking Problem

This plant has a frontage on Bear Creek Road of approximately two miles. When we began our work this frontage represented just that much parking field frontage, and all open to the road. The parking fields were divided between the personnel of Tennessee Eastman and that of the contractor, the Stone and Webster Company.

Our first conference with representatives of these two companies was successful in that we did get them to "fence in" the fields. We thus were enabled to establish some control over the vehicular movements to and from the parking areas. We stopped the explosive action between the parking lots and the roadway but there was still too much road and too much volume for the first nearby intersection. This is of the "T" type and at grade.

We next requested the two interested companies to stagger their shift periods. We explained that it would be much more effective if they would each break their personnel into at least two groups, each quitting at staggered intervals of fifteen minutes.

While the companies were digesting this we channelized the intersection. It was a simple operation. The right hand lanes were free and open. All left hand movements were controlled by a Police Officer.

Staggered Hours Helped Parking

It was finally agreed that Stone and Webster would dismiss their workers thirty minutes earlier. Tennessee Eastman agreed to dismiss their help at the ends of two subsequent intervals of thirty minutes each. The results were very gratifying. We reduced the overall time of evacuating the parking fields and at the same time actually getting the traffic through the intersection from one hour and forty-five minutes to three short periods of eleven, twelve and fourteen minutes. From one hundred five down to thirty-seven minutes. What was true at this plant proved equally effective at the others.

At the perimeter gates and on the arterial highways of the area the traffic peak was reached a little while before the Japanese capitulation. The con-

struction companies completed their work and have since moved on.

Present Situation

Gate movements are now but approximately forty per cent of their volumes at V-J Day. However, traffic on our city streets now stands at a greater volume than that of a year ago. Non-rationed gasoline along with good salaries and wages has made it possible for almost every make of car and every type of jalopy to appear in our midst.

Oak Ridge Plans for the Future

During the close of 1945 we prepared and submitted a long range program for improving traffic facilities, especially within the city of Oak Ridge. A general plan for the reconstruction of all arterial streets was undertaken. This included permanent type concrete curb and gutter and high type bituminous surface for all such facilities. It called for improved drainage and erosion control. It included high type illumination for approximately six and one-half miles of the most heavily travelled ways. It included permanent type sidewalks, parallel with and adjacent to the streets. This work is progressing nicely.

Along with the street improvements an extensive program of landscaping is being effected. Lawns are being treated to a coating of river bottom silt. Grass is beginning to grow, thus effacing the red clay scars of construction.

As to the future of Oak Ridge, doubtless all of you have been reading a great deal of what is being promised by the glamor boys of the press. We do not think the time is quite here for automobiles to be powered by nuclear energy. Neither do we think that in the immediate future we shall be able to maintain our streets and highways free of snow and ice through the use of some radioactive agent. However, we do hope and believe that through the continued efforts of the many scientists, quietly and patiently at work in the laboratories, ways will be found for the great processing plants to continue their work with elements having an atomic unstability, that many and varied uses will be discovered for the further application of nuclear energy; not only in destructive warfare but in the great unbounded field of human Welfare.

In that hope and in that belief we seem to sense a betterment of things to come. We no longer have the feeling that everything is "going to the dogs," in fact it is beginning to seem like "riding to the hounds" (hence the title of this article).

★ ★ ★

NOW HIGHWAYS HAVE POST OFFICES

Highways now offer the mails everything that a railroad offers. The first Highway Post Office to be operated by a contract carrier started its run in September.

A highway post office is a post office set up in a motor vehicle in which mail is sorted as it travels, and mail is also picked up and delivered at stationary post offices.

In addition to rural free delivery, star routes, a system going back to colonial days, have long been in use delivering pouch mail to points not reached by railroads. Highway Post Offices become the third form of mail delivery using the highways.

According to Mr. Charles M. Upham, engineer-director of the American Road Builders' Association, this new postal route extends from Union, Mississippi to Mobile, Alabama, a distance of 182.9 miles and the contract calls for a round trip daily except Sunday.

Parking Prohibition Reduced Dallas Accidents and Congestion

by W. C. BRANDES, *City Traffic Engineer*
Dallas, Texas

The City of Dallas, Texas witnessed a tremendous influx of workers during the war years and with an unusual stimulation of industrial and commerical development the population is still on the increase. Quarterly traffic volume counts are being made on 16 principal arteries on a perimeter about the city approximately midway between the downtown business district and the farther outlying residential section. These volume studies were begun in January 1945 and the July 1946 count showed a 54% increase of vehicle traffic over January 1945.

Parking Prohibition Recommended

Naturally the comparatively narrow streets in the central business district were rapidly becoming taxed beyond their capacity. Something had to be done! A recommendation was made by the Traffic Control Department that as an initial step parking be prohibited on certain downtown streets in the late afternoon rush hour.

There had been formed in Dallas about January 1946 a Downtown Traffic Committee. Three members were selected from the Board of Directors of each of the following organizations: The Citizens' Traffic Commission, the Chamber of Commerce, the Retail Merchants Association and the Wholesalers and Manufacturers Association. One of the first measures studied and sponsored was the prohibition of parking on downtown streets. As a result of that study and by proper ordinance passed by the City Council, made effective on April 30, 1946, all parking and standing of vehicles on four selected streets in the retail shopping area was prohibited between 4:30 P.M. and 6:00 P.M. daily except Sundays and holidays.

Prohibition Tried for 60 Days

The ordinance was passed for a 60-day trial period. Signs in the form of official poster boards were erected and curbs painted on April 22 and from that date until April 30 warning cards were issued violators but no actual arrests were made. In addition to the above signs decalcomania stickers were placed on the inside of the window glass on each and every parking meter, reading "No Parking 4:30—6:00 P.M. Except Sundays and Holidays."

From the very beginning strict enforcement was obtained by efficient work on the part of the Dallas Police Department. Cooperation of the citizens was highly satisfactory. Relatively few automobiles violating the regulation had to be impounded.

Trial Period Proved the Advantages

Following the 60-day trial period the reactions of downtown merchants and all other business interests involved definitely favored retention of the regulation. As a consequence, the ordinance was made permanent by the City Council on June 29. Permanent signs were then erected replacing the posters.

Results Were Measured

A study was made as to the effectiveness of the parking ban in which it was found by test runs in a private automobile that average vehicle speeds on the streets involved increased by 26.7%. Congestion was markedly reduced and the movement of transit passengers was greatly enhanced. Investigation of the accident record on the streets from which parking was prohibited and during the hours of such prohibition discloses a 21.6% reduction in traffic accidents comparatively based on a three-month period immediately prior to and following the regulation. The record also proves a 100% reduction in personal injury accidents in the same comparison, with not a single injury occurring in the three-month period following, while 8 are on record in the same period before.

CURBS SANDBLASTED BEFORE REPAINTING YELLOW NO-PARKING ZONES

The parking scheme in downtown Colorado Springs, Colorado, was changed early this summer to get ready for an unprecedented rush of vacation visitors. This meant removing yellow "no parking" paint in some instances and a general curb repainting program. The program of what to do with old, faded paint areas that still showed a faint yellow was involved—a condition that was somewhat of an eyesore as well as a possible source of confusion.

The solution worked out by the street department was to close off a block at a time on one side of the street and sandblast the curbs clean. A commercial sandblasting outfit was mounted on a trailer for the purpose. The procedure was to set up a row of stands along the outer edge of the parking lane and rope off that lane early enough in the morning so that parked, locked cars wouldn't hamper the job. Then the outfit came along and speedily blasted the curbs through the block. The crew covered one or two blocks a day.

A street sweeper then picked up the sand accumulation, and a paint crew followed almost immediately and put on new markings, including a freshening up of parking lane stripes.

The blasting operation naturally afforded an opportunity to do minor surface repairs to the street asphalt. Small surface cracks and wavy spots were ironed out with an acetylene torch which surface-heated just enough material to permit sealing with a few passes of the iron.

Frank Ray is city engineer and Milton J. Strong, superintendent of streets of Colorado Springs. — *Roads and Streets Magazine.*

★ ★ ★

NEW JERSEY CITY INSTALLS MODERN STREET LIGHTS

Margate City, New Jersey, in the process of changing its street lighting system over from old upright type street lighting standards to the new high-mounted pendant type standards on some of its principal thoroughfares, expects to increase its usefully delivered light by 1,100 per cent by increasing the number of generated lumens from 490,000 to 529,000.

INCREASED ASSESSMENTS PAY FOR PARKING LOT

In Quincy, Mass., property owners and merchants took a "broad view" of the parking problem when they urged the city to use municipal funds for acquiring a large parking lot site. City officials were told that increased property values and assessments would compensate the city. That's just what is happening. Assessed valuations recently were increased.

Located between a railroad and the land back of stores fronting on Hancock street, the principal business artery, the parking lot stretches out for 1,200 feet and accommodates a half thousand cars. Parking, without time limit, is free.

Even when the plan was in its infancy, two stores spent sizable sums in developing attractive rear entrances to the parking lot. Nine more stores have plans to improve rear entrances, and it is believed that before long the parking lot facades will be as attractive as those on the street.

Door counts made at three large stores have shown that from 50 to 55 per cent of their customers come by automobile, park their cars on the lot and enter the stores through the rear entrances.

Improvement of the lot will not be completed until the city obtains title to the one remaining piece of property

Left to themselves, motorists don't do a good job of parking. This 500-car lot in Quincy, Mass., however, will be modernized—new grade, new pavement, parking lanes well marked, and attendants on duty. Many of the stores already have remodeled their rear entrances or plan to do so.

for which settlement is pending in the courts. Total land cost will be approximately $150,000, with the properties acquired by condemnation.

At present parkers themselves figure out how and where to park, with consequent haphazard results as shown in the illustration. However, this temporary condition will end when the remodeling is done. The lot will be brought up to grade to meet surrounding drainage conditions, new pavement will be laid, lighting will be installed, parking lanes will be marked out, and attendants will be placed on duty.—*Automotive Safety Foundation News Report.*

FEDERAL AND STATE HIGHWAY SAFETY COMMITTEES FORMED

Federal Committee

President Truman has ordered the establishment of a Federal committee to begin a continuing campaign for reduction of highway traffic accidents.

The executive order calls for a committee made up as follows: One representative each of the Public Roads Administration, National Bureau of Standards, Bureau of Census, Federal Works Agency, Office of Education, Federal Bureau of Investigation, the Federal Inter-departmental Safety Council and of the Agriculture, Interior, War, Navy and Post Office Departments and the Interstate Commerce Commission.

The Committee will cooperate with state and local governments and with national highway safety organizations.

State Officials Committee

And on the state level, a coordinating committee of state officials designed to deal with traffic accident problems, has been formed as part of the action program adopted at the President's Highway Safety Conference held in Washington last May.

State highway traffic control officials, representing various national associations, met at the Statler Hotel in Washington recently to discuss plans for organization and operation. A committee of three was appointed to develop further plans for the next meeting, slated for October.

Serving as temporary chairman of the Washington gathering was Otto Messner, vice president of the American Association of Motor Vehicle Administrators, and motor vehicle commissioner of Pennsylvania. Among the organizations represented were the American Association of State Highway Officials, American Association of Motor Vehicle Administrators, International Association of Chiefs of Police, and the Council of State Governments. Staff members of the Public Roads Administration and of the President's Conference were also present.

North Carolina Committee

The State Committee for Traffic Safety, Inc., a non-profit, non-political, non-sectional and non-sectarian organization which intends to promote highway safety in North Carolina, received a charter in August from the Secretary of State's Office.

The committee, headquartered in Raleigh, N. C., proposes to hire a traffic engineer and other trained personnel. Funds are to be raised from public subscription and the goal is $100,000 per year for the next five years.

MINNESOTA MINING & MFG. CO., 900 FAUQUIER AVENUE, ST. PAUL 6, MINN.

GENTLEMEN:

Please send catalog and price list on "SCOTCHLITE" Traffic signs, also ship the "SCOTCHLITE" signs checked below.

NOTE:— Quantity discount allowed only when signs are in same legend and design.

Quantity	Type	Cat. No.	Size	Price 1 to 4	Price 5 to 49
	KEEP RIGHT signs	KRT—135	12"X18"	$3.35	$3.02
	ONE WAY signs	ONW—137	12"X18"	$3.35	$3.02
	SPEED signs (specify limits)	SLM—139	12"X18"	$3.35	$3.02

Name_____ Title_____

Address_____ City_____ Zone_____ State_____

ne these signs you need them

IT AT NIGHT!

Isn't it the best kind of "enlightened justice" to give motorists regulatory signs that throw a brilliant, unmistakable warning a long way off, in any weather and any conditions of lighting? You can do that now—quickly, easily, economically—with "SCOTCHLITE" markers of the kind shown.

"SCOTCHLITE," you see, is vandal-resistant and fail-proof because its blazing brilliance is entirely *reflected* light . . . the light of headlight beams thrown back by millions of tiny glass beads. It also offers the important value of *over-all* reflectorization—which means that "SCOTCHLITE" signs have the same shape, same color day and night.

The three much-needed signs shown here, and many other types of traffic signs, are now available ready made, for quick mounting. In addition, you can get "SCOTCHLITE" material in rolls, for application in your own sign shop.

The coupon on the left provides a handy means of ordering these three signs right away. You may also use the coupon to get our free catalog and price list, which provide full details on all "SCOTCHLITE" traffic signs.

6, MINN.

hecked below

Price 5 to 49
$3.02
$3.02
$3.02

SCOTCHLITE
REG. U. S. PAT. OFF.
REFLECTIVE SIGN MATERIAL

Made in U. S. A. by **MINNESOTA MINING & MFG. CO.**, Saint Paul 6, Minn.

THE 3M COMPANY

ITE NEWS AND PERSONALS

SEVENTEENTH ANNUAL MEETING ATTRACTS 200 TO COLUMBUS

Nearly two hundred Institute members and guests gathered in Columbus, Ohio, to attend the 17th Annual Meeting of the Institute of Traffic Engineers and to listen to leaders in the field discuss everything from paint lines to freeways. While the sessions were engaging the attention of the men, special entertainment was provided for the wives who attended. The group joined in a unanimous expression of appreciation to Harry Neal, George Fisher, H. Eckhardt and the Columbus committee who played host to the Institute in such a fine manner.

Officers Elected

Thomas Seburn, President; Robert Mitchell, Vice-President; and Wilbur Smith, Secretary-Treasurer, were re-elected. Two new Directors were elected, Henry W. Osborne, Buffalo City Traffic Engineer and F. B. Crandall, Oregon State Traffic Engineer, who succeed retiring directors Harry Neal and J. W. A. Bollong.

THURSDAY AFTERNOON SESSION

Columbus Mayor, James A. Rhodes welcomed the group, and expressed his regrets that street car service was unavailable due to the strike. President Seburn, in welcoming the group related a story about the man who cut off his dog's tail completely to make sure that his Mother-in-law, when she arrived, would be shown absolutely no sign of welcome, and the conference was assured that they were not in this category.

Lane Capacities

O. K. Normann of the U. S. Public Roads Administration was first on the program of speakers, and delivered a paper on "Capacity of a Traffic Lane." His remarks included the following points.

Capacity of a lane cannot be stated except in terms of the many variables such as a pavement width, traffic composition, etc. Maximum capacity is 2000 to 2200 vehicles per hour (passenger cars) at 30 to 40 mph average speed, providing no sight restrictions or pedestrian traffic interferes. Maximum practical working capacities for rural roads are 450 per hour for 2-lane roads, 500 for 3 lanes, and 1000 for 4 lanes at an average speed of about 42 mph. In urban areas 1500 passenger cars per hour per lane in direction of heaviest flow is maximum working capacity. One disabled vehicle in a lane can reduce the capacity of the highway more than the capacity of the lane.

One commercial vehicle has about the same effect as 2 passenger cars on level terrain; 4 passenger cars on gently rolling terrain, and 8 cars in mountainous territory.

Maximum lane capacity at signalized intersections is 741 vehicles per hour of green "go" period where parking is prohibited, and only 475 for the free moving lane where parking is allowed.

Intersection Capacities

Dr. Bruce Greenshields presented a paper entitled "Time Space Relationships of Traffic Determining Urban Intersection Capacities." His remarks supplemented and interpreted a series of lantern-slide pictures of charts showing results of studies conducted during the past year by the Bureau of Highway Traffic, Yale University. It was pointed out that the studies proved that driver behavior at intersections follows mathematical probability formulae, indicating that vehicle spacings, delays, etc. can be calculated correctly, saving much field observation work.

Stop Signs

The next subject discussed was entitled "When is a Stop Sign Warranted?" and was presented by Ralph Michel, Signal Engineer of Chicago, and member of the Institute Standards and Specifications Committee. He pointed out the need for careful study of the need for stop signs before erecting them, and cited an example in Chicago when removal of a sign reduced accidents greatly.

He stated that to warrant a stop sign installation, there should be at least 600 vehicles per hour average for 6 hours, and a minimum of 40% of this on the lesser traveled street.

He stated that reflectorized signs were vastly more economical than illuminated signs, judging from Chicago's figures.

Mr. C. M. Condrey, Cincinnati Acting Traffic Engineer, agreed with Mr. Michel that a plain stop sign should not be recommended because of night hazards. He stated that in his experience, maintenance costs for reflectorized signs are less than for non-reflectorized signs.

T. T. Wiley, Detroit Assistant Traffic Engineer, rose to question the efficacy of 4-way stop signs, and a number of those in the audience agreed as being not in favor of this type of control.

Wayne Volk posed the frequently suggested idea of permitting a right turn without stop at a stop sign. Robert Mitchell stated that the Manual of Uniform Traffic Control Devices does not sanction this practise.

School Crossings

Don McNeil discussed "When is a Police Officer Warranted for Control at a School Crossing?" His remarks covered the following:

Much money is wasted on officer control at school crossings. We have 165 officers assigned to this work in Pittsburgh. They cost $350,000 per year. What we did in Pittsburgh was to establish 3 committees who studied 15 school crossings—selected at random. Accidents, physical conditions, volumes, etc., were studied. Out of those 15, only 4 were adjudged in need of officer control. We met with the PTA Association then and showed them the facts, so the 11 locations were divorced of officer control for 3 months. Not an accident occurred.

Every school crossing should be equipped with cross walks, signs, etc. If hazard (product of vehicles and pedestrians) is greater than 175 per minute for 15 minutes, or if the crossing is in a congested area where parking would obstruct view of school children, then officer control is needed.

Robert Mitchell related a program in Philadelphia where school children were given special routes to follow, to channelize crossings to certain locations where officers could be permanently assigned.

One-Way Streets

"When is a One-Way Street Warranted" was discussed by Robert Grunow, PRA Highway Engineer. He deplored the lack of specific warrants in the Traffic Engineering Handbook. He stated that it is important to make sure that one-way streets are created in pairs and that movement of fire fighting equipment is considered.

History of Traffic Engineering

William Powell, Institute Historian, discussed the history of the profession of Traffic Engineering which he is currently compiling. He described the method of indexing facts on cards, filed by subjects and crossfiled by years. He gave the credit for original work in traffic engineering to William Phelps Eno, Burton Marsh, William Powell, Arch Bollong and Harry Neal were cited as being among the first official traffic engineers appointed.

FRIDAY MORNING SESSION

Biscuit Banter Breakfast

The biscuit banter breakfast, attended by 130 members and guests, featured an epic performance entitled "More Hoosier Corn" under the expert direction of Hallie Myers. Featured performers included Burton Marsh and T. M. Matson, Town Cops; Ray Riegelmeier, news reporter; and Ed Wetzel, Don Berry, T. T. Wiley, Arnold Vey, Ralph Michel and Hallie Myers, traffic consultants to the mythical town of Milltown. Among the traffic accident remedies prescribed by these "experts" were the elimination of street lights and automobile brakes, more use of the horn and elimination of curbs.

Baltimore's Parking Problem

The second session, on downtown parking, began with a paper by Nathan Smith, Baltimore Dept. of Public Works. A brief summary follows:

A recent transportation survey in Baltimore showed that there are 181,000 daily trips by motor vehicle into the central district, of which only 7,000 are destined beyond the district. The present parking capacity, including street parking, lots and garages, totals 12,300. All facilities are filled at peak periods.

The program for relief of this situation includes parking lots outside the district with bus service to and from these lots, off-street parking facilities, and one-way streets. The last session of the legislature authorized issuance of revenue bonds to provide an 821-car parking lot adjacent to both the market and a freeway, which bring in a large volume of traffic to downtown Baltimore. The legislature will be requested to authorize a parking authority which will promote strategically located parking facilities throughout the downtown district. Contemplated city legislation will require private property owners to provide off-street parking facilities. As soon as possible a considerable mileage of street-car track will be removed to permit one-way streets.

It is hoped that this program will check the spread of blight which has reduced the valuation of this district by $60,000,000 since 1931.

Baltimore's Parking Lot Plan

Adrian Hughes, operating manager of the Baltimore Transit Company, presented a paper on The Transit Parking Lot Plan, a brief summary of which follows:

The BTC is planning a series of parking lots on the edge of the central business district with shuttle bus service provided. A ticket will provide parking plus a ride via bus to and from the central district for 25 cents, and the cars will be self parked and locked if desired.

Experience with one lot indicates that the public likes the plan. Transit riders, merchants and even other park-

ing lot operators favor the plan. The problem is now to secure the necessary lots to accommodate five to six thousand car stalls.

The company expects to lose money in operation of the plan. But its purpose is to prevent vehicles from entering the business district. If this objective is achieved, the Company expects to more than make up its loss through increased efficiency of its regular service in the central business district.

Pittsburgh's Plan and Recommendations

Don McNeil, Pittsburgh City Traffic Engineer, presented Pittsburgh's plan, summarized in the following:

During the past ten years there has been a decrease of twenty per cent in the number of people coming into the downtown area of Pittsburgh. This is indicative of the degree of decentralization which has taken place.

A sub-committee of traffic of the Allegheny County Conference on Community Development aided by a national committee of experts has been studying the parking problem. Although many studies had been made over a period of years, it was found necessary to obtain additional information. This was made possible by placing an additional question on a questionnaire being distributed to motorists entering the central business district. This questionnaire was being distributed by the state highway department in conjunction with the Public Roads Administration. This question asked how long the driver parked, where and what was his destination.

Mr. McNeil showed a series of slides illustrating the results of this study in terms of replies received and the needs as indicated. Another study was of the patrons of four parking lots to determine what their needs and wishes were. They showed that parking lots were needed rather than garages and that nearness to destination was a paramount factor.

As a result of the surveys, plans have been made for a series of parking lots in the central business district. Some are to be strategically located to serve short-time parkers and others, located on less expensive property, will serve all-day parkers. Use of lots by short and long time parkers will be controlled by rates.

This plan is estimated to cost $35,000,000 and will provide a total of 26,000 spaces. It will be self liquidating.

Philadelphia's Experience

R. A. Mitchell discussed the recent parking ban in Philadelphia, where he is Traffic Engineer. A brief summary follows:

In January of 1946 drastic parking regulations went into effect. In Philadelphia's downtown area there are many one-way streets. On these parking was prohibited, with loading allowed on the right hand side only between certain restricted hours and no loading on the left side without special permit when the nature of the load made loading on the right impractical.

This plan, backed by a committee appointed by the City Council, received whole hearted support and was made a permanent measure before the trial period of 90 days was over.

The result was a 20 per cent increase in street car movement, a fifty per cent increase in vehicle speed and several significant trends in accident experience. Accidents in the area decreased 5 per cent compared with an overall city increase of 29 per cent. Intersection pedestrian accidents decreased 20 per cent and mid-block pedestrian accidents decreased 40 per cent.

Philadelphia also has completed an off-street parking survey and contemplates the provision of additional off-street parking facilities. Private enterprises will be encouraged to provide this.

FRIDAY AFTERNOON SESSION

Short Count Parking Studies

Henry Evans, Director, Traffic Engineering Division, National Conservation Bureau, told of the method he has been using to survey parking in medium-sized and small cities, and showed results of statistical studies proving the negligible amount of error involved in the sampling technique.

By this method, employing only 2 to half a dozen field men, five major parking diseases may be investigated, he said. They are (1) all-day parkers, (2) overtime parkers, (3) need for more time-limit zones, (4) need for additional off-street facilities, and (5) need for better loading facilities for trucks and buses.

Airport Facilities and Ground Transportation

Frank J. Macklin of the Air Transport Association, pointed out that present airport facilities are inadequate to handle present day ground traffic demands, and recommended expansion and modernization through community planning. He cited need for better approach road facilities.

Public Transportation in the Overall Traffic Field

John Ecker read a paper on this subject. Mr. Ecker is Director, Research and Planning, Capitol Transit Co., Washington, D. C.

Attention was called to the increasing demands on public transit, and it was stated that a 20 per cent increase is anticipated within the next few years. Need for adequate loading and unloading zones was cited. Fringe parking lots provided with shuttle-bus service (as in Baltimore) were recommended.

Off-Street Parking

Nathan Cherniack of the New York Port Authority, presented a paper entitled "The Zoning Ordinance—A Frontal Attack on the City Parking and Terminal Problem." In it, he recommended adoption of local zoning ordinances to require provision of off-street parking and loading facilities in connection with all new building construction. He described the present laws in effect in cities and counties making this provision.

Pedestrians

Lloyd Reid, Detroit City Traffic Engineer, discussed the pedestrian ordinance now in effect in Detroit and pointed out that it places a large share of responsibility on the pedestrian. According to this law, he must not step into the street if a vehicle is

E. P. Goodrich delivering the principal address at the banquet, I.T.E. Seventeenth Annual Meeting.

approaching near enough to constitute a hazard. Summonses are issued to those who break this law, or who cross on the red light. Mr. Reid said a substantial reduction in accidents had accompanied adoption of this ordinance.

Reversible One-Way Streets

John Mitton, Chief Engineer, Washington, D. C. Dept. of Vehicles and Traffic, discussed the effects and advantages of reversible one-way streets. This method of more effectively utilizing street space is used in Washington, D. C., and soon to go into effect in St. Louis, Mo. Two-way traffic is permitted during off peak hours, one-way inbound is the rule for a.m. peak, and one-way outbound is the rule for the p.m. peak flow.

SATURDAY MORNING SESSION

Commercial Vehicle Loading

The first paper of the Saturday morning session, with D. Grant Mickle presiding, was "How Can Commercial Vehicle Loading be Handled to Minimize Traffic Hazard and Congestion" by Dwight M. McCracken. The truck loading problem was reduced by Mr. McCracken to four basic factors; (1) size of truck, (2) number of trucks unloading, (3) manner of truck parking, and (4) duration and time of loading operations. In addition to the establishment of an equitable proportion of loading zones at the curb with unloading prohibited during peak traffic hours and proper enforcement, Mr. McCracken recommended central terminals for the consolidation and efficient distribution of truck loads into and out of the central business district. Increased efficiency in loading and unloading operations was suggested as a method of reducing the time individual trucks monopolize terminal facilities.

Speed Zoning

The next paper, "The Need and Application of Speed Zoning" by J. Carl McMonagle, stressed the importance of adequate speed zoning laws and the need for standard methods of determining the proper physical and numerical limits for speed zones on a factual basis. In conjunction with the current program to revise all speed zones on Michigan's highways, Mr. McMonagle stated that he is attempting to develop a speed rate formula based upon the number of roadside developments per mile of highway.

Honolulu Traffic Planning

George Houghtailing, Honolulu City Planning Engineer, next delivered a discussion on planning and control of traffic in the city of Honolulu.

Experts Couldn't Be Stumped

The final session featured a panel of "old timers," men who have been Institute members for more than 15 years, and questions were solicited from the audience. Members of this panel were Graham Cole, Guy Kelcey, Arch Bollong, Don McNeil, Ted Matson, Earl Reeder, Lewis McIntyre, and William Powell. Although no one could "stump" the experts, it might be said that several of the questions were evaded with a skill which can only be attained after 15 years experience as a traffic expert.

Transit Film Shown

The final item on the Saturday Morning Session was the showing of General Electric's sound color film "Life Stream of the City." In this film, the greater relative street space economy of transit vehicles is compared with private passenger cars, both as to moving people and parking the vehicles.

Traffic Bureau Graduates Gather at Luncheon

The Yale University Bureau of Highway Traffic played host to 34 of its former graduates who were in attendance at the Columbus meeting of the Institute at a luncheon in Columbus on Friday, October 4. Also included were graduates of the Yale Bureau predecessor of the Harvard Bureau. Each member present was called upon for remarks, at the conclusion of which Henry Evans, '39 graduate, provided some piano music for entertainment.

Those in attendance were as follows:

BUREAU STAFF

Matson, Ted
Smith, Wilbur
Greenshields, Bruce
Hurd, Fred

GRADUATES

Andriacci, Louis A.
Baker, Howard M.
Bender, Louis E.
Billings, Wm. E.
Braun, Wallace L.
LeCraw, Chas.
Maier, Eugene
Malo, Alger F.
Mathes, Ellis L.
McCracken, Dwight M.
Deetz, Russell S.
Evans, Henry K.
Fisher, Geo. J.
Gove, Wallace A.
Gravelle, Gordon K.
Halsey, Maxwell N.
Hammond, Harold F.
Havenner, Joseph E.
Holmes, Robert S.
Houghtailing, Geo. K.
Kraft, Merwin A.
Mickle, D. Grant
Osborne, Henry W.
Papageorge, Geo. T.
Perkins, Ernest T.
Ricker, Edmund R.
Ristroph, Paul L.
Upham, Chas. M. Jr.
Volk, Wayne N.
Wetzel, Edward G.
Williams, Leslie
Yost, Light B.

New York Section To Meet Oct. 31

The President Tavern, New York City, will be the locale of the first Fall meeting of the N. Y. Section, I. T. E. Secretary Rittgers announces that the program will feature a discussion by Fred Fisch of the New York State new Bureau of City Arterial Planning, which he was recently selected to head up.

All Institute members and other interested parties are cordially invited to attend. Dinner begins at 6:30 p.m.

TRAFFIC ENGINEERING SESSIONS NATIONAL SAFETY CONGRESS

Two group sessions for traffic engineers were staged by the Traffic Section, National Safety Council, on Oct. 8th and 9th at the 34th National Safety Congress in Chicago. Both were well attended, each attracting approximately 50 participants.

Highway Features vs. Traffic Accidents

The first session opened by I.T.E. President Tom Seburn, featured a paper by Wayne Volk, Wisconsin State Traffic Engineer, who brought out the many safety advantages of proper highway design. He showed slides of proper and improper design features of Wisconsin, Connecticut, Pennsylvania and other highways. Medial strips, easy curves, adequate signing and proper shoulders free of obstructions were cited as important.

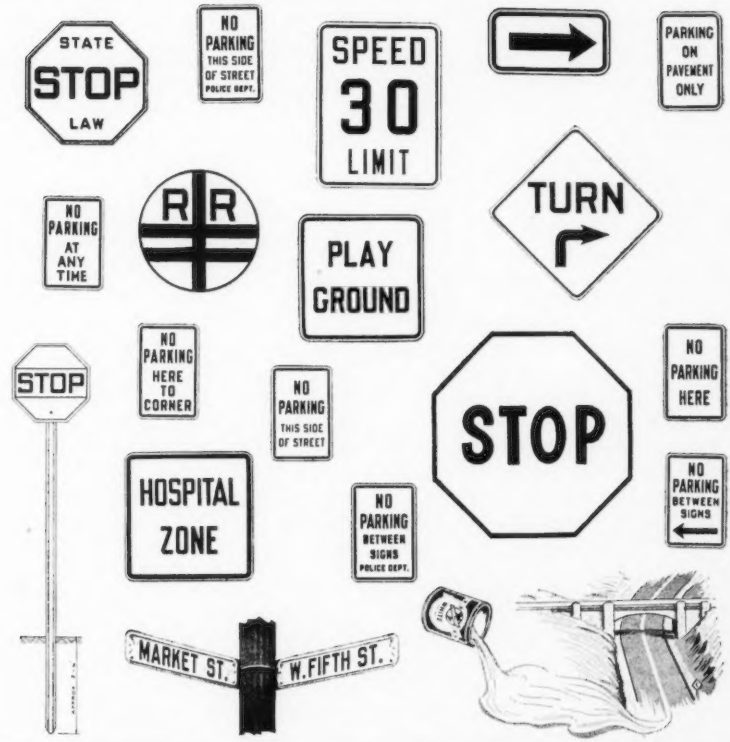
David Baldwin, of the National Safety Council, commented on the Pennsylvannia Turnpike, making the following points. The 1941 accident rate was 10.7 fatalities per 100 million vehicle miles, 20 to 30 per cent lower than the average rate on other Pennsylvania rural highways. The few accidents that occurred were mostly of the rear-end type, many of these involving commercial vehicles.

Sub-division Layout for Traffic Safety

Burton Marsh, Director, Traffic Engineering and Safety Department, American Automobile Association, presented a talk on the problem of proper design of residential sub-divisions. His remarks are briefly summarized as follows:

HIGHWAY SIGNS - POSTS - PAINTS

EVERY TYPE for EVERY PURPOSE



THE HUNT COMPANY
Established 1920

Phone University 1-6078
3700 W. SIX MILE ROAD
DETROIT 21, MICHIGAN

CATALOGUE AND PRICES ON REQUEST

The National Committee for Traffic Safety called together a committee of 25 to explore the problem of subdivision layout for traffic safety. It was decided to develop a primer, written in simple language, to distribute to real estate people, city officials etc. Three aspects were considered, the technical matter, the legislative material, and the educational program. The first aspect has been treated and is now in 2nd draft form of the primer. The PRA is helping in the research and compilation of the report.

The primer was started by a library research project, and deals with topography, foundations, access, traffic generated by development, parking, interior street plan, street and intersection design, sidewalks, street lighting, street name signs, utility services and playgrounds.

Marsh emphasized that the primer will meet with success only if it is considered reasonable, practical and not theoretical, hence all efforts are being directed toward this end.

Skidding Tests Report

Professor R. A. Moyer, Iowa State College, presented a discussion of the results of the skidding and traction tests on ice at Houghton Lake, Michigan undertaken as a project by the Committee on Winter Driving Hazards, National Safety Council. These were tests of heavy trucks primarily, supplementing the work previously done on passenger car skidding.

He pointed out the increase in traffic accident death rate during the winter in northern states, despite the fact that peak traffic volumes occur during the fall, indicating the need for special attention to winter driving hazards. Fourteen times as many skidding accidents occur on wet pavements as on dry pavements, according to a recent analysis. This ratio is about 30 for icy or snowy roads it was stated.

He brought out that as speed increases, the friction coefficient decreases, a fact not generally appreciated. Nearer freezing, the stopping distance increases because of the lubricating effect of water. Lower temperatures reduce stopping distance. But where sand abrasive is employed, this temperature effect is not prevalent, since the sand tends to dig into the softer melting ice and compensates for the lubricative effect. Without sand, using bare tires on ice near 32° F., skidding distances of 220 feet and over were observed from an initial speed of 20 mph.

Parking vs. Safety

The second traffic engineering session was opened by presiding chairman Grant Mickle, who introduced Elroy Ericksen, Research Associate of the Yale Bureau of Highway Traffic. He read a paper prepared by Wilbur Smith, Associate Director of the Bureau, entitled "Relation of Parking to Traffic Safety."

It was brought out that parking plays a more significant role in the accident picture than is generally realized. Accident statistics attribute only 9.2 per cent of urban accidents and 4.5 per cent of rural accidents to parking. Fatal accidents traceable to parking total 1.3 per cent for urban and 2.5 per cent for rural areas.

Many examples were given of accident reduction following parking changes from angle to parallel type (at the curb). Double parking was given as a typical sore point in city congestion, and one extreme situation was related where signs had been posted "No Triple Parking." Also instances were given of fatal accidents involving runaway vehicles (parked on hill without adequate brakes) and involving carbon monoxide fumes in parked cars with motor running.

It was reported that streets in Washington, D. C., had had capacities increased 15 per cent by prohibition of parking during peak hours.

Too high curbs and inadequate shoulders were cited as improper design factors causing parking accidents in rural areas. Lack of sufficient "turnouts" where shoulders aren't adequate was blamed also.

The Retailers Viewpoint

Roy John, Managing Director, Indiana Associated Retailers, delivered a discussion of parking from the retailer's standpoint. He pointed out that the retailer is both a buyer and a seller, but that over the past he has tended to put all emphasis on the buying and arranging of goods in his store, and not enough on the selling. Lately, retailers have begun to realize that their job is not completed until the goods are in the customer's homes.

He said that the major factor in this job is parking, and that the retailer will become more and more a source of interested cooperation and leadership in the solution of parking problems. Mr. John pointed to the trend toward decentralization and private transportation, and said that the only reason that outlying stores attracted customers was because of the parking advantages offered. He enumerated the many advantages of centralized shopping districts such as diversity of goods offered, movies, doctors, dentists, etc., and stated that if parking facilities could be provided downtown, then centralized areas would far outweigh outlying areas in popularity.

He suggested that the traffic engineer give credit for understanding the parking problem to the retailer, and that the engineer start on the retailer's side, letting the businessman be in on the traffic surveys and planning from the start.

Mr. John suggested use of soundslide films in "selling" the public on parking and traffic plans, and deplored the many fine schemes that have "died on the vine" because of lack of informed public opinion.

Elimination of Curb Parking Predicted

In a panel discussion of small city traffic problems, led by Henry K. Evans, Director, Traffic Engineering Division, National Conservation Bureau, Lloyd Braff, Staff Engineer with DeLeuw-Cather Co., predicted that eventually parking will be entirely eliminated on through streets of all cities over 10,000 population. He stated that small cities suffer just as much, if not more, from parking ills than do the large cities. He cited Sioux City, Iowa as an example, where although it is only one-fortieth as large as Chicago, yet one-fifth as many automobiles come into the business district every day. Thus, this small city has a greater relative parking problem than does Chicago.

Roadside Stands Blamed

J. E. Johnston, Nebraska State Traffic Engineer, cited the need for more state legislation to control the encroachment of and parking in connection with roadside stands etc. on traffic. He said it was hard to make these laws effective unless they were retroactive. In Nebraska, it was pointed out, shoulders and lane widths have been improved to aid in reducing accidents on high speed highways.

One-Way Streets

William F. Kavanaugh, City Traffic Engineer of Syracuse, N. Y., described the one-way street program in his city, which was instituted on a 60-day trial basis. He said street maximum capacities were higher under the one-way plan than under the previous two-way movement.

Off-Street Parking

C. G. Stoneburner, Arlington County, Virginia, Traffic Engineer, told of the unusual expansion (350 per cent) of population in that County during the past 10 years, and of the traffic problems generated by the building of the Pentagon office building. He described the changes and improvements in the zoning ordinances, requiring provisions of off-street parking facilities in connection with all new theatres, stadiums, etc., except churches. Hotels are required to provide one space per 3 hotel rooms.

Highway Research Board to Meet

The Twenty-sixth Annual Meeting of the Highway Research Board will be held this year from December 5th through the 8th at the building of the National Academy of Sciences and the National Research Council, Washington, D. C.

A.S.F. Moves Headquarters

The Automotive Safety Foundation has moved its headquarters in Washington, D. C. from 321 Tower Building and 726 Jackson Place to 700 Hill Building, 839 17th Street, N. W., Washington 6, D. C.

WAR DEPARTMENT BOOSTS TRAFFIC ENGINEERING

As a part of the newly instituted Army-Wide Motor Vehicle Accident Prevention Program, the Provost Marshal General has issued Ciruclar No. 210 instructing commanding officers to see that more consideration is given to traffic engineering improvements on all Posts.

Staff agencies are instructed to pay particular attention to pedestrian protection, modern planning and traffic engineering techniques.

Robert Holmes (Member I.T.E.), Assistant to the War Department Safety Director, was instrumental in getting the Army Safety Program underway.

According to announcement made by Mr. Holmes at the Annual I.T.E. Meeting, subscriptions to Traffic Engineering Magazine will be taken out by the War Department so as to furnish about 550 post safety directors with this source of ideas and facts.

Copies of the President's Highway Safety Conference Action Program and of the individual committee reports (see June issue, Traffic Engineering) are being distributed to posts, camps and stations in the zone of interior, and will be used to guide the safety campaign.

The Army Program incorporates driver training, using a new training manual PRT-565 which is being used to train Driver Test Teams throughout the U. S. All War Department m. v. operators are required to successfully complete three tests, physical aptitude, knowledge, and driving skill. A Central Control Record System is also being established at all Army installations to consolidate individual driver's records.

★ ★ ★

A FERTILE SPOT FOR TRAFFIC ENGINEERS

The city of Quito, Ecuador could use sound advice on traffic. It has a population of 150,000, yet there isn't a sign, signal or marking anywhere, according to F. R. Hoyt, Airport Manager (a former traffic engineer and graduate of Yale University Bureau of Highway Traffic).

Signs

OF AN EFFICIENT MANAGEMENT

The good will of the home folks and the respect of the thru traffic is obtained by efficient and thorough street marking.

You must tell 'em if you want to sell 'em.

Most drivers do comply, if properly informed. The approved Miro-Flex line is complete in every detail. It includes signs for every parking and traffic need. Send for catalog today.

M-1046

MANUFACTURED BY

MIRO-FLEX COMPANY

1824 EAST SECOND STREET . WICHITA, KANSAS

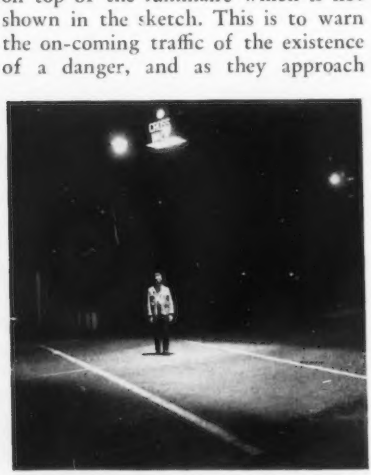
Seattle, Wash. Finds Crosswalk Light Helpful

The illustration shows an illuminated crosswalk sign currently used in Seattle, Washington. According to City Traffic Engineer J. W. Arch Bollong, who submitted the photograph:

"We illuminate the luminaire with two 500-watt incandescent lamps so as to preclude the possibility of the lamp being out as there will always be one illuminated.

"The luminaire is designed with different slopes to the sides for different width streets so that the intense illumination will cover the width of the crosswalk. It is also flexible so that it can be widened to cover 10-foot or 20-foot crosswalks.

"We also install a flashing beacon on top of the luminaire which is not shown in the sketch. This is to warn the on-coming traffic of the existence of a danger, and as they approach



they see an illuminated "Crosswalk" on the side of the luminaire and illumination showing the pedestrian in the walk.

"We have found this to be very effective and a method of illuminating crosswalks in hours of darkness."

Employment of Traffic Engineer Urged for Springfield

Creation of a traffic engineering department, headed by an experienced traffic engineer, an assistant and secretary, and establishment of a traffic commission to replace the traffic and transportation board are the major recommendations of a traffic survey report just issued by Future Springfield, Inc. (Massachusetts), a local civic group. J. A. Carrothers (Assoc. I.T.E.) acted in a consulting role in guiding preparation of the report.

Future Springfield recommends that all licensing powers, now in the hands of the traffic and transportation board, be transferred to the police department; that $15,000 be appropriated for operation of the proposed commission for one year; that the police department send one or more officers each year for three years to a recognized police traffic school; that the city install parking meters if and when they are legalized by the Legislature; that the city go on record as favoring state legislation enabling cities to regulate pedestrian traffic, and that downtown lots be developed and improved.

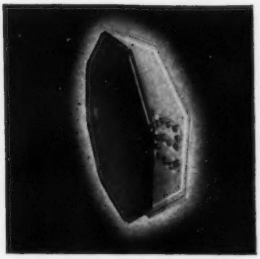
Wide support for the recommendations has been voiced by civic officials and business leaders. A recent questionnaire sent retail merchants revealed the following: 32 per cent believe municipal parking lots or garages are the first need; 23 per cent are for stricter traffic enforcement; 16 per cent want a traffic engineer; 70 per cent believe restrictive parking has an effect on store business; 50 per cent want parking meters; 74 per cent feel that heavy trucking now permitted in congested areas contributes to general confusion.

WHY GROTE SIGNS?

HERE'S 5 GOOD REASONS WHY YOU SHOULD SPECIFY GROTE TRAFFIC CONTROL SIGNS

1 **Grote Signs are always Legible,** using only the newest U. S. approved lettering that commands drivers' attention. Grote Snaplock reflector buttons give you reflection of the **Warning Message,** making drivers familiar with traffic or road conditions in sufficient time to take the necessary precautions for safe driving!

2 **The New Grote Snaplock Plastic reflector button** permits replacement of individual buttons, without **removing** the sign rear housing, or the sign from its stationary post. **NO OTHER REFLECTOR CAN** give you this reflective quality, this easy installation and maintenance of signs, and the economy effected by using these Grote Snaplock Reflector Buttons.



3 **EXPERIENCE** has shown that **ANY PERMANENT TYPE REFLECTORIZED SIGN** must carry a rear housing plate to protect the reflectors, and the sign from being twisted and bent through vandalism. Rear housing plates are your assurance, that your signs will remain in place. Vandalism on a sign equipped with Grote reflector buttons, can be repaired **on the spot.**

4 A Grote reflectorized sign resists being twisted or bent so consequently you are assured your Grote traffic signs will give your motorists the **full day and night protection,** you can depend upon. This must be considered where human lives are at stake, and officials desire the maximum safety precautions on your highways.

5 The Grote Snaplock Reflector button is a revolutionary idea, giving you BETTER REFLECTION, EASIER INSTALLATION, AND MORE ECONOMICAL MAINTENANCE—all of those essential factors to good protective highway sign equipment. To insure the safety of your motorists, **SPECIFY GROTE SNAPLOCK REFLECTORIZED TRAFFIC SIGNS.**

Write, wire or phone today, for your sample Grote Snaplock Reflector Button.

THE GROTE MANUFACTURING COMPANY, INC.

BELLEVUE, KENTUCKY, OPPOSITE CINCINNATI, OHIO

(FORMERLY THE NATIONAL COLORTYPE CO.)

PERSONALS

Joseph E. Havenner (Jun. Member, I.T.E.) has been named as the new manager, Public Safety Department, Automobile Club of Southern California, succeeding E. B. Lefferts who died recently (see September issue). "Joe" was formerly traffic engineer with the Department, having come to the Club in 1941 from the Oregon State Highway Department. He is a graduate of the Yale Bureau of Highway Traffic, 1939-40.

T. W. Forbes (Affil. I.T.E.), Professor of Psychology and Consultant in Traffic Engineering, University of Hawaii, writes in to say that he is still single and very busy teaching classes in application of psychology to education, business, social work and traffic ranging in size from 50 to 160. Excerpts follow:

"I get together with George Houghtailing and other local traffic people every once in awhile. . . . Interest in traffic is hot here with off-street parking facilities, an artery through the business district and a tunnel through the mountains back of the city under discussion. Houston Wynn has just returned from the Yale Bureau to take up duties as Territorial Highway Traffic Engineer. Am just starting an 8-week night course on traffic for those professionally interested and have representatives from Territorial Highway, City Traffic Engineering, Planning Commission, Traffic Commission, Schools, Police, Army and Navy forming a fine group. . . . Hope to write up the Sign Arrow Legibility study done at Yale with the Connecticut Highway Department but so far haven't had time."

Henry A. Barnes (Assoc. I.T.E.), Traffic Engineer of Flint, Michigan reports on his activities as follows:

"Since the war we have completed our new traffic code which makes it necessary to make a complete survey of all thoroughfares within the City of Flint in an effort to inventory our traffic signs and control devices in order to learn their condition, and to make the many changes that will be necessary because of the new ordinance. You can readily realize that this is a tremendous job when it is considered that the City contains nearly thirty-five square miles of area and signs are scattered practically from "Hell to Breakfast." The survey work on this job is nearly completed but it will be some months before signs are all renovated or changed to correspond with the new ordinance."

J. C. Vincent (Mem. I.T.E.), City Traffic Engineer of Minneapolis, Minn., has retired, to be succeeded by Mr. Ralph H. Sprungman.

W. L. Braun Takes D. C. Traffic Job

Wallace L. Braun, (Member, I. T. E.) traffic engineer of the Baltimore Police Department since 1937, resigned to accept a position as deputy director of Vehibcles and Traffic for the District of Columbia.

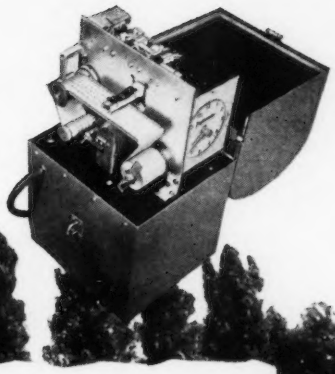
Mr. Braun, who will assume his new duties on August 15, will receive a salary of approximately $7,500.

A graduate of the Johns Hopkins University in electrical engineering, Mr. Braun became head of a new Traffic Engineering Bureau attached to the Police Department following a year's study with the Bureau for Street Traffic Research at Harvard University.

Hamilton R. Atkinson, police commissioner, announced that Lieut. Bernard J. Schmidt, of the Traffic Division, would take over Mr. Braun's duties temporarily.

Lieutenant Schmidt, the commissioner said, is a graduate of Northwestern University Traffic Institute

ARE YOU PLANNING AHEAD?



Many state, highway and county engineers are not only "planning ahead" for the construction of new highways and streets, but have already, through the aid of Streeter-Amet Traficounters, made extensive surveys . . . and are ready to put into operation a complete construction program, as soon as facilities and materials are available.

The Traficounter is a precision instrument . . . twice as fast as any other vehicle counter. Easy to install . . . economical to operate . . . at work 24 hours a day, rain or shine. It gives facts that are indispensable to the traffic engineers who do the planning. Write for Bulletin on Streeter-Amet Traficounters.

STREETER - AMET COMPANY
1726 Belle Plaine Avenue Chicago 13, Illinois

and of the University of Baltimore Law School.

Before receiving the Harvard scholarship which led to his job as traffic engineer, Mr. Braun served for several years as an engineer in the municipal Bureau of Mechanical-Electrical Service.

Prior to that, he was employed by the Gas and Electric Company for three years following his graduation from Hopkins.

Mr. Braun considers the formation of a permanent staff for the Traffic Engineering Bureau, which was done at the beginning of this year, one of the most significant steps forward since he began his work on traffic conditions here.

For the first few years Mr. Braun was a one-man department, even acting as his own secretary. His first studies of traffic conditions were made by personnel loaned by the WPA.

Now his office staff includes five investigators and a draftsman who, Mr. Braun said, compile the data and statistics necessary for any long-range traffic planning.

Mr. Braun is a member of the Institute of Traffic Engineers, and was referred through the Institute to the position which was open in Washington.

Dr. Bruce D. Greenshields (Member I. T. E.) has accepted the new position of Associate Professor of Civil Engineering at George Washington University, Washington, D. C., where he will have charge of courses in transportation and other civil engineering subjects. The University expects to add to its laboratory facilities and broaden the scope of its work in civil engineering.

Margaret Woolverton (Assoc. Mem. I. T. E.) has left the employ of the National Safety Council in order to take over on a full-time basis operation of a ranch in Canada and a farm in California.

Russell Deetz (Jun. Mem. I. T. E.) has returned from the army and is back as an assistant traffic engineer in the Division of Traffic and Safety, Ohio Department of Highways. His residence address is 440 Colonial Avenue, Worthington, Ohio.

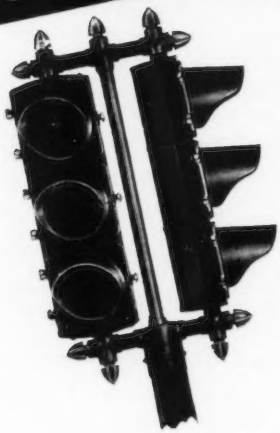
Maxwell Halsey (Member I. T. E.), Executive Secretary of the Michigan State Safety Commission, was recently hired by the City of Fort Wayne, Indiana, to conduct a traffic survey. Questionnaires were distributed to shoppers asking for mode of transportation and parking information, as one phase of the survey.

C. R. Gallagher (Assoc. I.T.E.), consulting traffic engineer, whose home is in Ventura, California, reports on his recent activities on the Pacific Coast:

" . . . I am just completing a report on an intersection traffic movement and accident study in the main business section of Santa Barbara, which is leading to several recommendations which if approved by the Council and put into effect will considerably improve the present situation. I was retained by that city as their traffic consultant on a yearly basis beginning last month. Previously (last December) I was retained by them to make a Freeway Crossing Study. From January through the middle of April I was busy working on some traffic circulation systems and under and above ground parking arrangements for Kaufmann, Lippincott & Eggers, Architects of Los Angeles and for the Los Angeles Turf Club. This latter work is still in progress. Also, in January a little work dealing with parking and routing of traffic was done for the city of Pittsburg, California.

"Yesterday I submitted a plan for study of the "On Street" phase of the Parking Problem in five different business districts in the City of Santa Monica, Calif., in answer to their re-

At your Service ... SPECIALISTS IN COMPLETE TRAFFIC CONTROL SIGNALING SYSTEMS



Cat. #S23C—
Two Way Adjustable
4 in. Post Top Signal

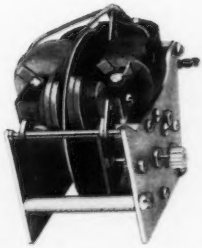
Only Eagle offers complete traffic control signaling systems, ranging from simplest through most modern Vehicle Actuated and interconnected types.

"Eaglelux" traffic signals are available in forms to meet every traffic need.

Eagle "EA" and "EM" Synchronous controllers feature unequalled power, efficiency and dependability through the new powerful synchronous disc ball bearing motor.

Eagle Service is available through country wide organization of engineering representatives, ready and anxious to serve you.

"EA" Series
Synchronous Controller,
Non-interconnected
or Interconnected.



New EAGLE
Synchronous
Disc Motor

"EM" Series
Synchronous
Controller, 2 Street,
Non-interconnected

EAGLE Signal Corporation
MOLINE - ILLINOIS

quest for same. I sure hope it is approved as it will be a nice job and will, I hope, result in my securing that city on a yearly basis. As soon as I get two more cities on a yearly basis I'll be ready to take on a full-time assistant. As it is now, I have just been using part time help.

"One of the jobs for the firm of architects I mentioned was the planning of three levels of underground parking for Earl Carroll's new theatre to be built on Sunset Boulevard in Hollywood. The other was a half level down and two levels above ground in a R.C. skeleton type structure for Carroll in connection with his present night club and a new office building he is going to put up. Another was the development of a street-system and two levels of underground parking for a 14 million dollar development out in Wilshire Boulevard. One of the architects and I also collaborated in planning an underground truck terminal under this area and it really was a honey; however, the fellow that owned this sold his land about a month ago for 4½ million—so the deal is off—but it sure was interesting and educational while it lasted."

James A. Head (Assoc. I.T.E.), Assistant Traffic Engineer, Oregon Highway Department was recently married to the former Miss Vernon B. Jensen of Salem, Oregon. Part of the honeymoon was spent on the East Coast, visiting various traffic engineering departments en route.

James K. Gibson (Jun. I.T.E.), formerly with New Orleans Public Service, Inc., recently became Associate Transportation Engineer with the California Railroad Commission. Mr. Gibson, whose new home is at 135 Bucareli Drive, San Francisco, was discharged from the Navy in April, where he served as a Lieut. Commander as head of the Automotive Transportation Division, 12th Naval District, San Francisco, California.

I. S. Shattuck (Mem. I.T.E.), Planning and Traffic Consultant, has announced the change of his office to Masonic Temple Building, Wayzata, Minn. He was formerly located in Minneapolis.

GRADUATE CIVIL ENGINEER

23 years old, would like job in traffic engineering. East preferred. Experience to date in T. E. field limited. Interested parties contact Editor, TRAFFIC ENGINEERING.

LETTERS TO THE EDITOR

From M. A. Bebee, Member I.T.E., Traffic Engineer with the N. Y. Dept. of Pub. Works, comes this essay on a subject that has been a bone of contention in the past. The Editor will be glad to receive any comments on this for publication in a future issue.

"Green is a better color than yellow for traffic signal heads *(Ed. note: the housing, not the light)*. Green is to be preferred over yellow for the following reasons:

"1. The red, green, and yellow color indications appear to be much brighter in the green signal heads than in the yellow signal heads.

"The most important function of a traffic signal is to display the color indications clearly and effectively. The point where the indication changes from green to red is of utmost importance.

"Green is the color opposite to red. It is a scientific fact that colors are brightest to the eye when they are displayed with their opposites. Therefore a red light is more intense when it is displayed in a green background, than with any other color.

"Yellow is a supplemental color to red. Supplementary colors blend together to form a third color. A red indication in a yellow signal head tends to create an overall orange effect.

"The red and green signal lenses are illuminated to produce colors of high intensity. A yellow signal head is also of high color intensity. In fact, yellow represents the maximum of color intensity. Therefore there is much less contrast with red and green lights in a yellow signal head than with these same lights in a darker, or green signal head.

"For this reason it would be impossible to satisfactorily display a flashing yellow indication in a yellow beacon head. At a few hundred feet, especially on the sunny side of the yellow signal head, a steady or flashing yellow indication would be ineffective, and would be but a slight improvement over a plain yellow sign above the intersection.

"2. The yellow signal heads are unsightly, especially after they have weathered some, and become streaked with dirt.

"Yellow is not a very pleasing color alone, and its use is generally avoided in color combinations which include green. It is not satisfactory from an esthetic point of view to support a yellow signal head with green steel poles. The poles should be blue, grey, black, or yellow to carry the yellow signal heads.

"The above disadvantages of yellow offset the single advantage of yellow signal heads being more visible than green signal heads where there is green foliage or dark colors in the back-

WHY YOU SHOULD SPECIFY TUTHILL GUARD RAILS

1. Strong, convexed steel panels. 2. Mounted on deflective springs that absorb heavy impacts. 3. Steel spring brackets mounted low on post for greater strength. 4. Visibility at great distances. 5. Deflective action saves lives, reduces damage. 6. Low maintenance cost.

Write For Complete Details

TUTHILL SPRING CO. 764 W. Polk St. CHICAGO 7, ILL.

ground. This advantage of yellow is lost at night, or in fog, or in winter when the foliage is gone or there is snow in the background; and yellow is especially ineffective with the sky as a background. Green is better than yellow in open locations and in foggy locations.

"A preference for yellow signal heads might be influenced by the fact that the idea of the yellow head is novel. As with any other novelty, the effect of the new color would be partially lost if all signal heads were painted yellow.

"It is recommended that the use of green for the traffic signal heads be continued.

"I wish to suggest that any decision on yellow vs. green for signal heads be based on the above mentioned properties of the two colors in intensifying the red, yellow, and green signal indications, rather than on a preference for yellow because it is novel, or because yellow signal heads can be seen better against some backgrounds. It would be better to attach yellow wings or panels to the edges of the green signals where it is necessary that this signal head be made more visible. Accidents are more often the result of not seeing the red or yellow indications in signals, rather than not seeing the signal heads.

CITIES EXPERIMENT IN SHUTTLE BUS AND FRINGE PARKING

Shuttle bus service from fringe area parking lots is gaining consideration as a possible means of helping relieve downtown parking pains. This type of parking service, used in only a few cases before the war and with varying success, has still to prove itself in the minds of many traffic and parking authorities. At any rate, a growing number of experiments are being made which should add materially to the present meager fund of information.

Denver

In Denver, two adventurous G.I.'s have launched a shoppers' parking service consisting of shuttle station wagon service from an outlying parking lot directly to seven large downtown department stores. The stores, which are helping finance establishment of the service, are so located that the station wagons are operated over three distinct routes.

A striking feature of the operation is the method adopted to avoid delay in unparking. When the parker wishes to depart, she notifies the store attendant at the station wagon stop. By direct line, the attendant calls the parking lot. The shopper's car will be waiting when she arrives. The present parking fee is 15c per hour but may be lowered later.

Contributions of the stores are limited to a six months' trial period. Whether assistance will be continued, or the service for that matter, will depend upon the business and demand developed during the trial term.

Atlanta

In Atlanta motorists may now use a unique Park-Ride service, with cars parked a mile and a half from the center of the business district. The flat rate of 35 cents includes parking and round-trip transportation into the business district over any one of a half dozen bus and trolley lines near the parking lots—which are operated by a motion picture theater. The service is available from 8 A.M. to 6 P.M. daily, but after six and all day Sunday the lots are reserved for theater patrons.

Baltimore

The Baltimore Transit Company is trying out the shuttle system on a strictly profit-making basis. The company's management believes that if the number of passenger cars entering the downtown business district can be reduced, a better, faster and more profitable transit service can be offered. The city zoning commission agreed to a temporary change in the restrictions so that the idea could be tried out from one outlying parking lot.

Patrons at the new perimeter parking lot have become so numerous the company no longer has enough space for those who park their cars and ride downtown on shuttle buses. The company is reported to have approached city officials on the possibility of leasing additional land to supplement the parking lot.

Cincinnati

Cincinnati recently concluded a 90-day experiment in shuttle bus and fringe parking operation—and discontinued the service because the lots were being used to only a small percentage of their capacity and the bus operation suffered a loss.

The Cincinnati project came about as a means of forestalling complaints expected to arise when curb parking was banned on "super-congested" downtown streets. Two outlying parking lots were established at diagonally opposite corners of the congested area, with a total capacity of 1,200 cars. The local transit company provided bus service every five minutes, with the fee set at five cents.

Said a city official, " * * * since the buses used were extra vehicles which had to be used on regular lines during the morning and evening peak traffic periods, it was necessary to limit the shuttle service to the hours between 9 A.M. and 4 P.M. However, these were the hours during which parking was formerly permitted in the super-congested area. * * * However, we do not consider this experiment to have been a failure, as it did bring out the fact that fringe parking does not seem to be the answer to the parking problem insofar as shoppers are concerned. If the bus service could have been supplied for a longer period of time, it is probable that the parking lots would have received much better patronage as they could have been used by all day parkers." — *Courtesy of News Releases from Automotive Safety Foundation and American Transit Association.*

California Abandons Yellow Stripe

The yellow "No Passing" traffic line, long used in California on state trunk highways, has been eliminated as a design feature by the California Division of Highways. Under a state law and in conformity with national uniform traffic signing practices, former "No Passing" zones are to be marked with two continuous or solid parallel white lines. A combination solid and broken white line will be used where passing is restricted to one direction for vehicles approaching a blind crest or grade. Passing is permitted when the broken line is the driver's lane.

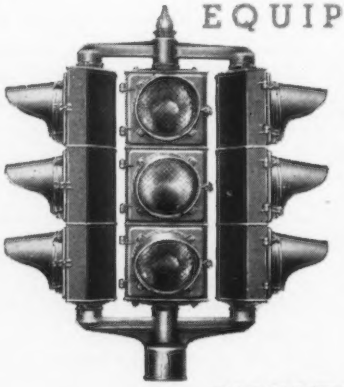
A solid white or barrier line on the right of the broken line in the driver's lane will indicate "No Passing." A driver may overtake and pass a slower vehicle if the broken line is in his lane, providing the way ahead is clear. Several months will be required this year to convert pavement markings to the new scheme. —*Roads and Streets*

The right kind of planning will eliminate your traffic jams and then MARBELITE "BETTER BUILT" Signals will keep motor traffic and pedestrian travel under control.

A clear, distinct indication that operates steadily, aids everyone to move smoothly without fear of accidents.

A dependable safety service is available, and ready to co-operate in solving your traffic problems, if you will contact our traffic engineering department.

MARBELITE
Traffic Signal
EQUIPMENT



The quality, reliability and simplicity of maintenance of MARBELITE Signals, puts them in the first line. Their artistic design is a mark of distinction for your community.

Keep the MARBELITE name on your suppliers list and get our proposals on your requirements.

The MARBELITE Co., Inc.

26 WARREN STREET
NEW YORK 7, N. Y.

ADD OUR NAME TO YOUR SUPPLIERS LIST